COTTON

APRIL SERVING THE 1943

Textile Industries

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JOHNSON
UNIVERSAL
BRONZE

sable FROM END to END No WASTE or SCRAP

Save TIME... Avoid WASTE

● TIME and MATERIALS . . . our two most valuable possessions. Wasting either one is a form of sabotage. You save both when you purchase Johnson UNIVERSAL Bronze. Complete machining — inside diameter, outside diameter and ends saves 25% in metal . . . hours of your machining time. Your local Johnson DISTRIBUTOR carries a stock. Specify Johnson UNIVERSAL . . . the highest quality Bearing Bronze available.

Write for
NEW
CATALOGUE

JOHNSON BRONZE COMPANY
530 SOUTH MILL STREET . . . NEW CASTLE, PA.

APR 19 1943

THE FABRIC OF WAR!

LINED up for inspection, fully equipped paratroopers are wearing just about every well-known textile fabric . . . cotton, wool, rayon, nylon, linen.

The manufacture of these fabrics is at an all-time high, and many mills are meeting this vital war-need for maximum output . . . by lubricating with Texaco.

Texaco Spindura Oils effectively cushion spindle vibration, resist hunting and lagging, thus assuring more uniform tension and twist, and permitting higher speeds and heavier packages. These oils reduce ends down and stock spoilage.

So effective have Texaco Lubricants proved that they are definitely preferred in many important fields, a few of which are listed in the panel.

A Texaco Lubrication Engineer will gladly cooperate in the selection of the most suitable lubricants for your equipment. Just phone the nearest of more than 2300 Texaco distributing points in the 48 States, or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York, N. Y.

THEY PREFER TEXACO

★ More locomotives and railroad cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

★ More buses, more bus lines and more bus-miles are lubricated and fueled with Texaco than with any other brand.

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

TEXACO REG. T. M.

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN FRED ALLEN EVERY SUNDAY NIGHT—CBS ★ HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

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Volume 107 Number 4

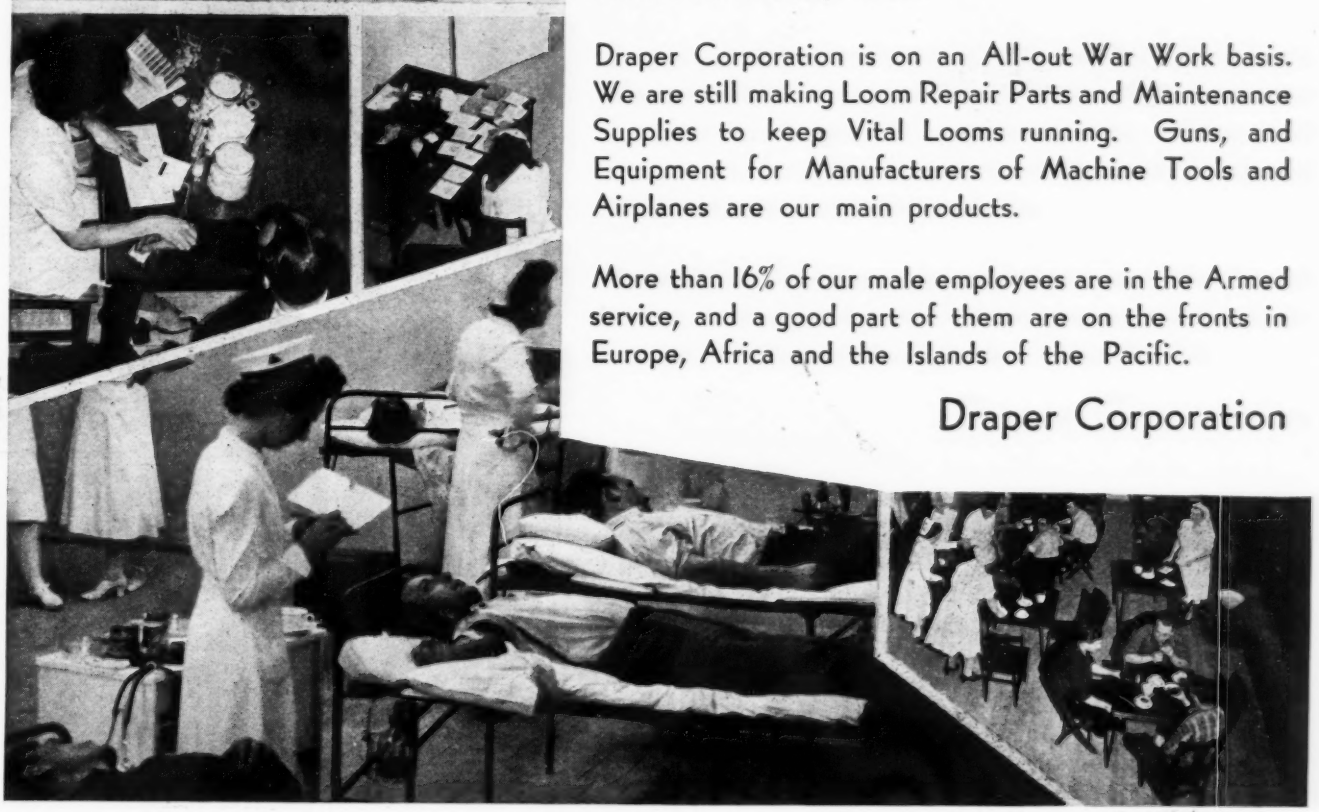
Blood Donor Week in Hopedale

"A Pint of Blood to Save a Soldier's Life" was the watchword at Hopedale Community House during Blood Donor Week recently. Fourteen hundred Draper employees and members of their families volunteered as Donors, more than the Mobile Unit of the Boston Metropolitan Chapter of the Red Cross could take care of in a 5-day clinic.

Draper Corporation is on an All-out War Work basis. We are still making Loom Repair Parts and Maintenance Supplies to keep Vital Looms running. Guns, and Equipment for Manufacturers of Machine Tools and Airplanes are our main products.

More than 16% of our male employees are in the Armed service, and a good part of them are on the fronts in Europe, Africa and the Islands of the Pacific.

Draper Corporation

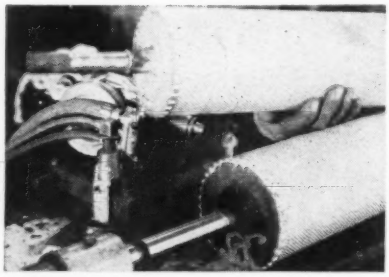


Don't let Worn Parts be a Bottleneck

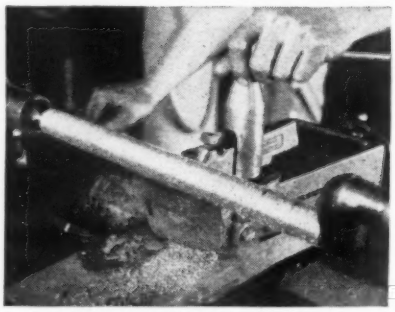
Scrap Textile Parts Made Like New

By **MOGUL METALLIZING**

Here's How To Rebuild Them



SAND ROLLS Top roll shows old method of building up through welding; roll below shows finish built up through metallizing. Metallizing cuts time in half over previous method.



LOOM CRANKSHAFT Shaft rough threaded before metal spraying operation. 50 comparable shafts were salvaged in one mill at a cost of $2.00 each for complete metallizing job. New shafts cost $5.50—over 63% savings!

Textile machinery is taking a licking, keeping up with the demand for necessary Army, Navy and civilian goods. Never before has efficient maintenance and repair been so important.

Textile mills are solving these countless maintenance problems with Mogul metallizing equipment. This amazing metal spray gun is not only the answer to today's parts replacement bottleneck, but long after the restrictions of war have passed, this vital equipment will save you time, money and materials.

The most general Mogul metallizing textile applications are building up spindles, drawing rolls, sand rolls on looms, loom crankshafts, size pump impeller shafts, spinning frame rolls, line shaftings, let-up shafts on looms, squeeze roll shafts, etc.

Here's the procedure in building up a worn shaft by metallizing:

ROUGH THREADING. This preparatory operation is done by turning a thread on worn surface with lathe tool, set slightly off center to produce a tearing effect. Threads are cut 18 to the inch. Into these recesses the molten metal is sprayed.

METAL SPRAYING. The Mogul metallizing gun is mounted on a tool post, perpendicular to the work and five inches from it for best results. The Mogul gun sprays any metal obtainable in wire form, is high speed, ruggedly built and will give years of dependable, low cost performance.

FINISHING. After surface has been built up it is then machine finished to specified tolerances. Finishing characteristics of sprayed metal are similar to cast iron. Because of this it will absorb lubricant, thus increasing the wearing qualities.

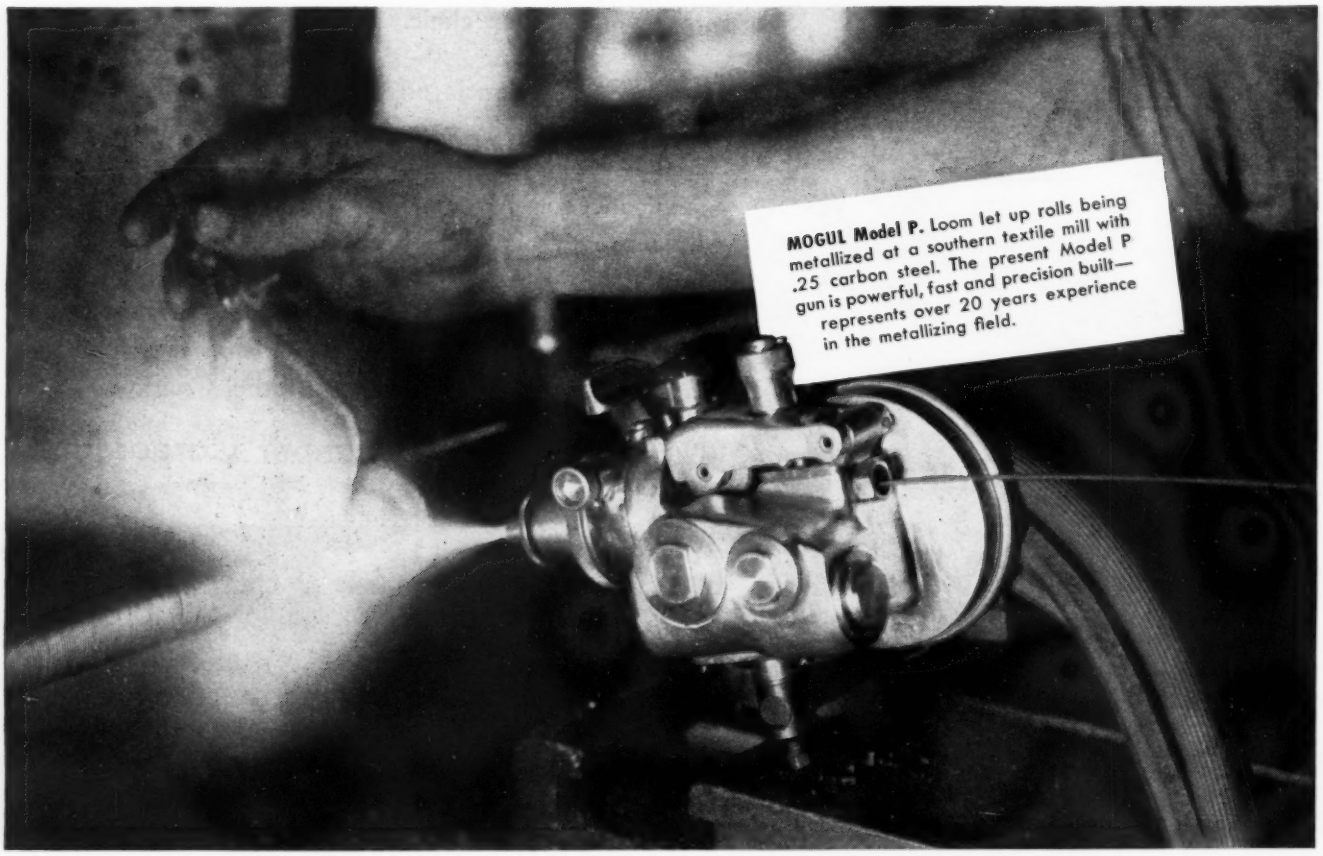
A Mogul metallizing gun in your mill will save you money the first hour of use—cutting maintenance cost, and saving materials.

MOGUL

Write today for Equipment and Process catalog.

METALLIZING COMPANY OF AMERICA 1334 CONGRESS ST. CHICAGO, ILLINOIS

1351 East 17th Street • Los Angeles, Cal. 5 State Street • New York, N.Y.



MOGUL Model P. Loom let up rolls being metallized at a southern textile mill with .25 carbon steel. The present Model P gun is powerful, fast and precision built—represents over 20 years experience in the metallizing field.

Through the Gateway to the South

from our plant at Charleston, West Virginia, WESTVACO TEXTILE-GRADE CAUSTIC SODA is being speeded to an ever-increasing number of Southern mills and bleacheries.

Uniform in analysis, car after car, WESTVACO TEXTILE-GRADE CAUSTIC SODA gives excellent, low-cost results in wet processing.

Throughout 1943 we confidently expect to continue to provide Westvaco caustic soda users in the Southern Textile Industry with their full requirements, both as to quality and quantity.

Westvaco Textile-Grade Caustic Soda

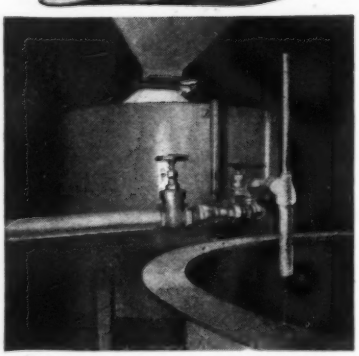
Uniformly High Quality from
a Conveniently Nearby Source

Liquid · Flake · Solid

WESTVACO CHLORINE PRODUCTS CORP.
Chrysler Building, New York, N. Y.
Woodside Building, Greenville, S. C.
Chicago, Ill., Newark, Calif.

Westvaco
CHEMICALS

SALTY SAYS: "You eliminate spotting, streaking, and white edges with 100% saturated brine!"



"Here's the Lixator installed at Continental Mills, Inc., Philadelphia, Pa."

"WHY? Well, it's this simple. Brine disperses *evenly* throughout the vat . . . there are no undissolved crystals to ruin the dye-lot when you use *100%* saturated brine.

"And there's no difficulty in getting 100% saturated brine—every time—when you install a Lixator. It's produced *automatically*. Important, too, is the fact that the Lixator uses no stirring devices—either power or manually operated.

"Thus the Lixator helps cut your production and maintenance costs...requires no power or constant repair-man supervision! Furthermore, the Lixator cuts costs by using 10% to 20% *less* salt—utilizes inexpensive Sterling Rock Salt!

"But what about installation? Does it cost a young fortune? No sir! There's no investment in machinery required. You merely lease the Lixator for a very nominal annual sum!

"Into the bargain, the Lixator will not only help you to achieve level dyeing . . . it will give you *perfect* zeolite water softener regeneration also. Would you like to get *all* the facts? Send for the booklet below!"

"IT'S FREE!"

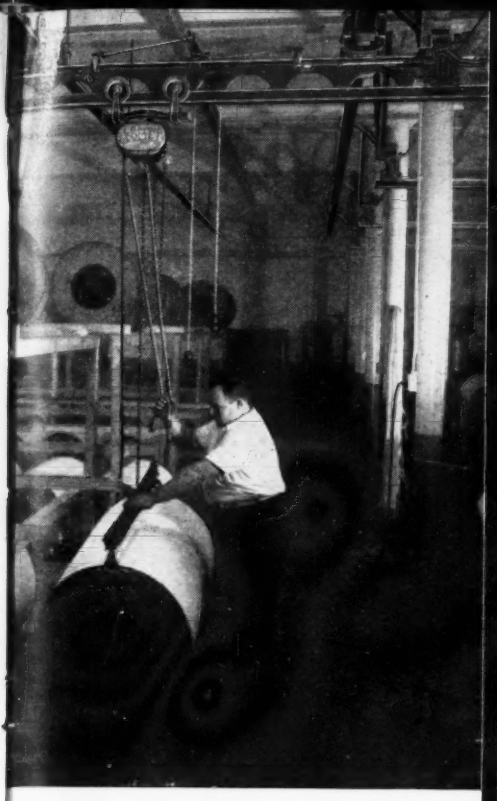
"Let me send you this 36-page, fully-illustrated booklet on the Lixate Process for making brine. It gives you all the facts—installations, brine tables, diagrams, formulas. Just write for *your* copy, today!"

The LIXATE Process

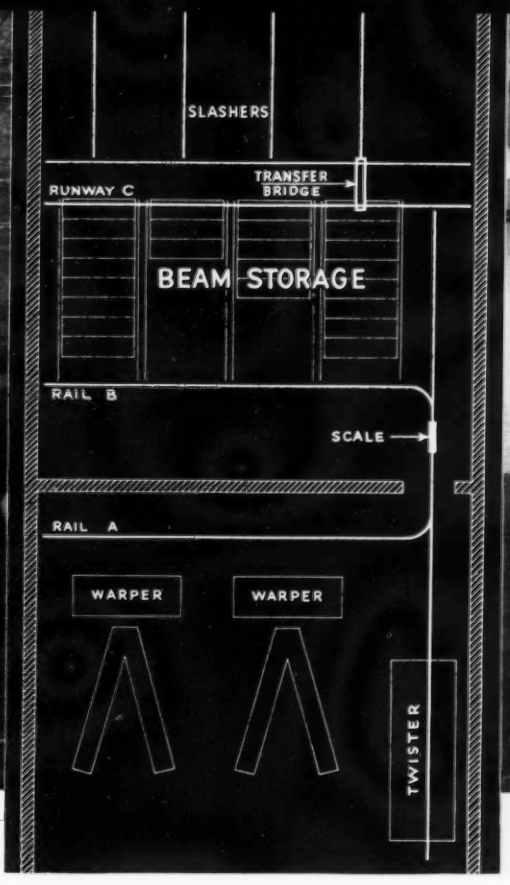
Reg. U. S. Pat. Off.

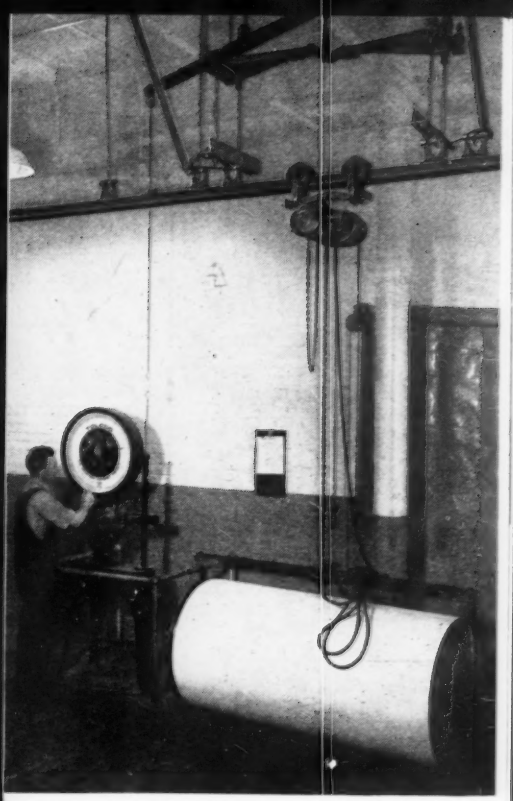
for making brine

INTERNATIONAL SALT COMPANY, INC., DEPT. T-3, SCRANTON, PENNSYLVANIA



Heavy beams are easily removed from the storage rack and transferred to any of the rails over the slashers with this transfer bridge.





It is a simple easy job to weigh beams with this track scale. The carrier with beam is stopped on a floating track section and weight recorded.

BEAM HANDLING AND STORAGE SIMPLIFIED WITH CLEVELAND TRAMRAIL

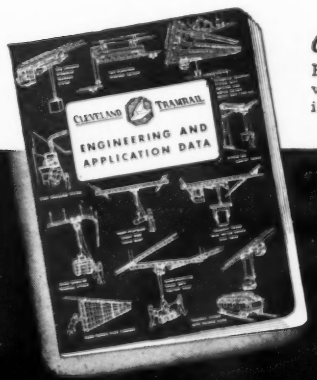
Cleveland Tramrail overhead materials handling equipment provides a very convenient and efficient method of handling and storing warp beams in cotton mills that saves space, time and facilitates the work.

The layout above illustrates how one mill delivers beams by means of Cleveland Tramrail directly from the warpers or twister to the beam storage where racks are provided for storing them on three different levels.

The beams are placed into the racks from Rail B, and removed to the slashers by use of the transfer bridge on Runway C. The transfer bridge enables the delivery of beams to any slasher. As beams are removed from the racks the beams behind are rolled ahead; thus they are put through to the slashers in the same sequence as made up.

A Tramrail track scale is incorporated into the system, as shown, making it a fast, easy job to weigh the beams as they are taken to storage.

Cleveland Tramrail equipment can be supplied to mills producing or converting to the production of war materials. Others who do not have a sufficiently high priority rating are urged to write for data on Cleveland Tramrail and begin formulating plans now for future development.



GET THIS BOOK!

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1175 EAST 283RD ST. WICKLIFFE, OHIO.

CLEVELAND TRAMRAIL

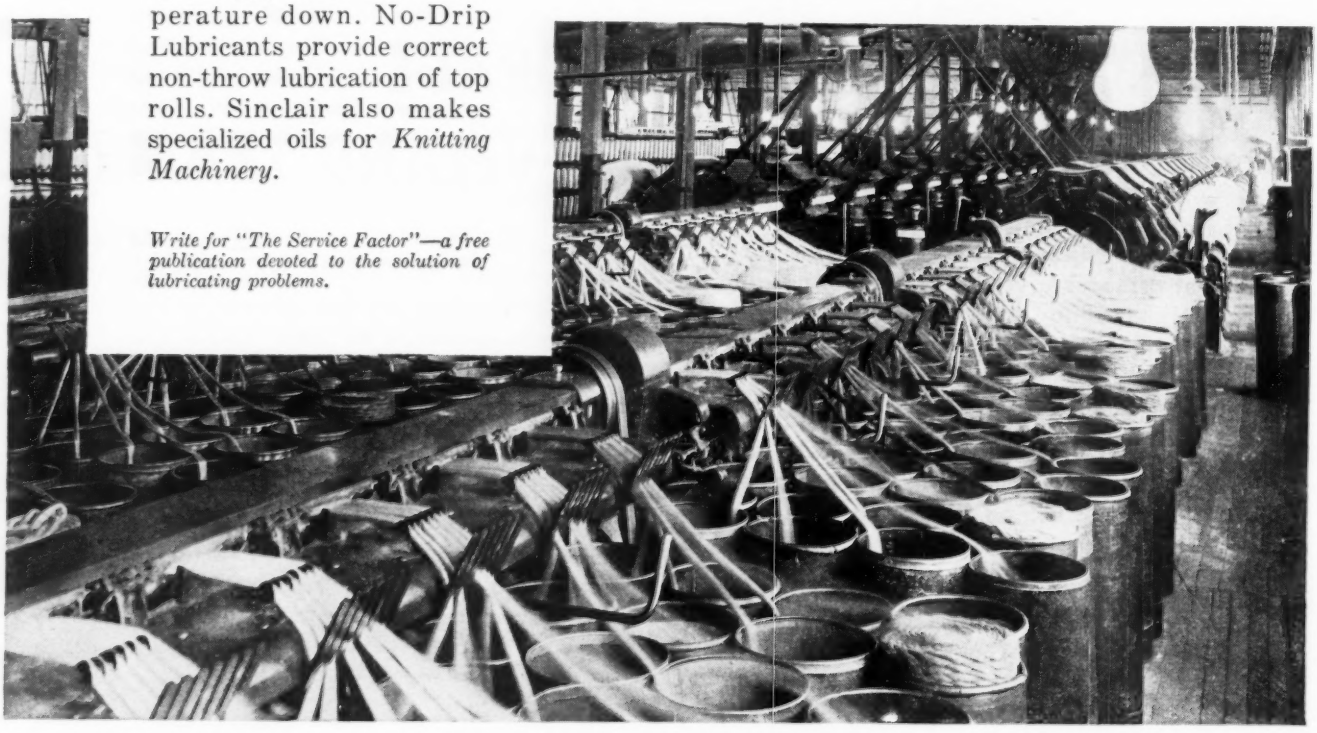
OVERHEAD MATERIALS HANDLING EQUIPMENT

TOTAL WAR needs total production. For full schedule operation in *TEXTILE MILLS* use . . .

. . . SINCLAIR LILY WHITE OILS and NO-DRIP LUBRICANTS.

Lily White Oils keep spindle speed up, power loss and temperature down. No-Drip Lubricants provide correct non-throw lubrication of top rolls. Sinclair also makes specialized oils for *Knitting Machinery.*

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.



SINCLAIR TEXTILE LUBRICANTS

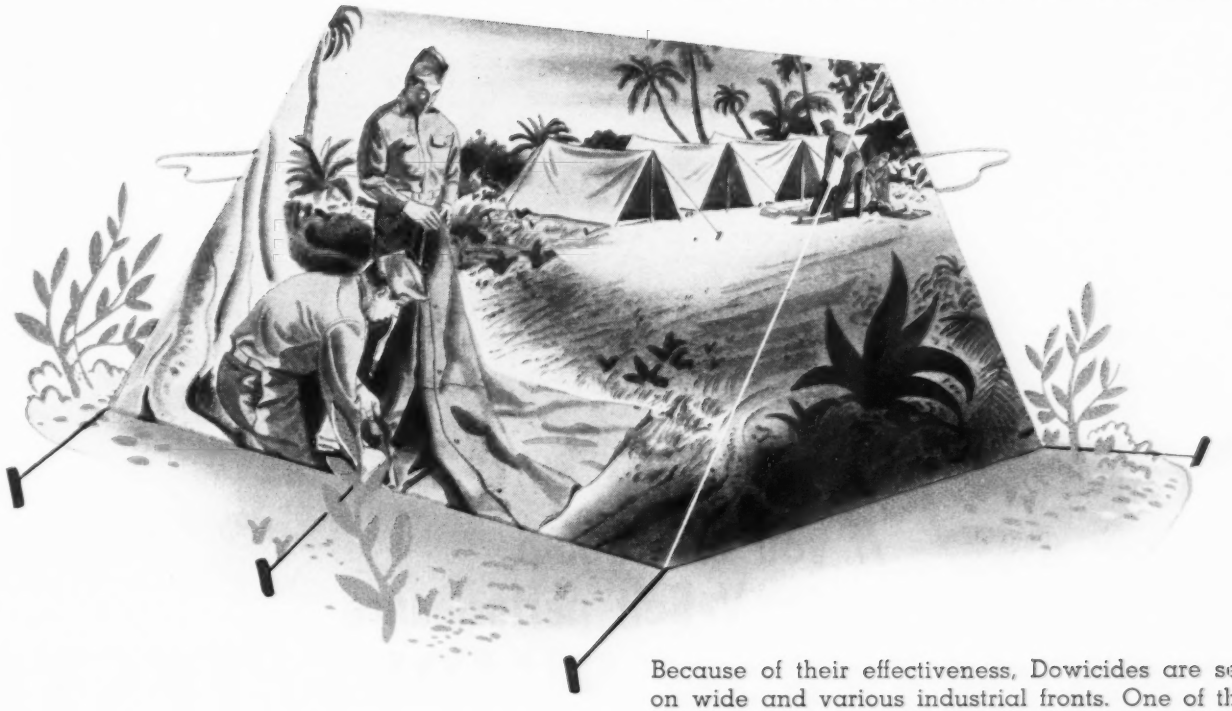
FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE NEAREST SINCLAIR OFFICE

SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • Rialto Bldg., Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth

Life Expectancy Up—for Army Duck!

Protection for a wide variety of products against the destructive and disfiguring action of bacteria, molds and algae is being provided by Dowicides. These effective germicides and fungicides, of which there are 17, were developed by Dow as a result of exhaustive research in this field. They consist of a group of phenol derivatives which are produced with but one purpose in mind—to help in the control of microorganisms.



Because of their effectiveness, Dowicides are serving on wide and various industrial fronts. One of the important uses is in the preservation of army duck. Tents and other canvas products are made more serviceable and are given longer life through the application of Dowicides.

The usefulness of Dowicides is not limited to the textile fields . . . lumber, leather and paper products all benefit from Dowicide applications. They are applicable to almost every industrial need, providing maximum protection for numerous essential products.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

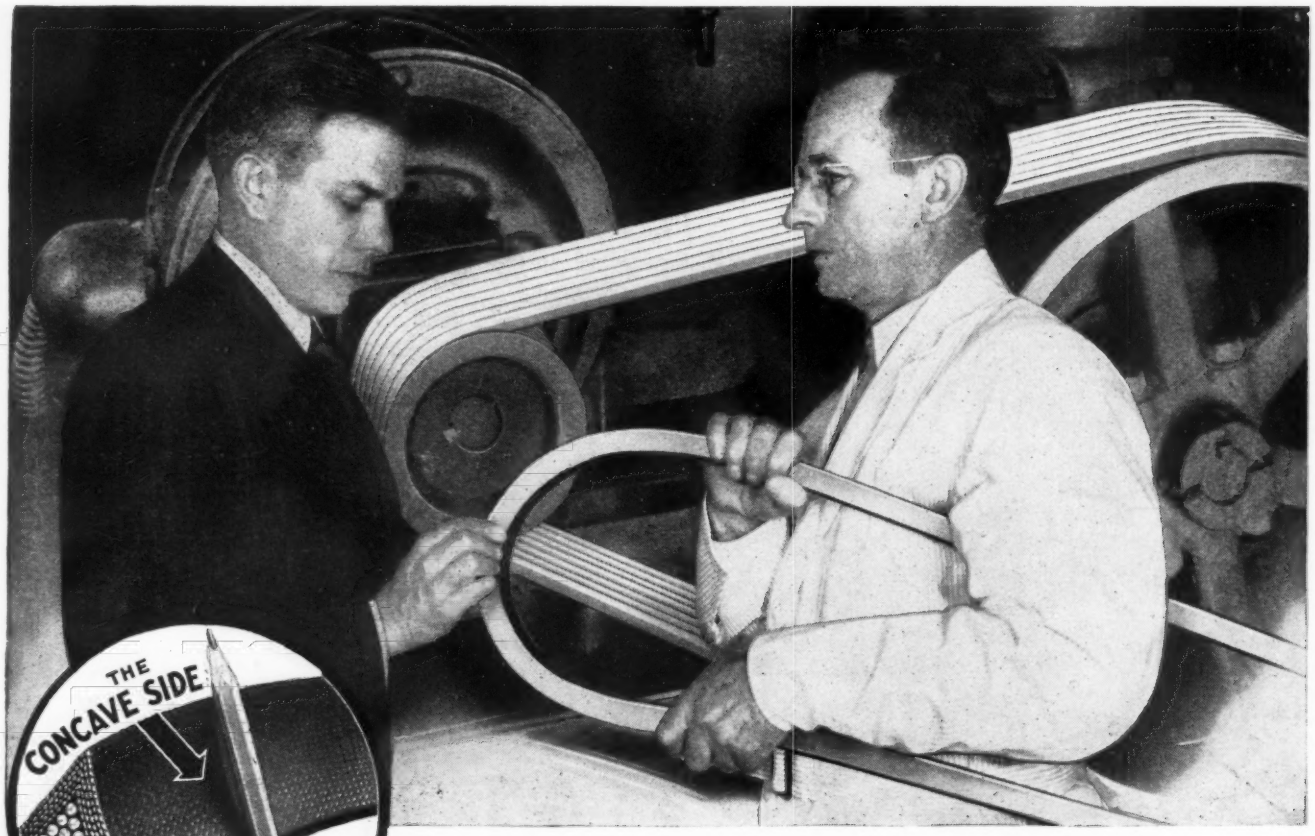
PROTECTION FOR TEXTILES: Dowicides protect textiles against mildew and fungous growths. Incorporated in compositions for finishing, they provide an effective inhibiting action under widely varying atmospheric conditions—from arctic to tropical. This means longer life for all textiles. Write for full details.

DOWICIDE

GERMICIDES AND FUNGICIDES

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY



If you care about better V-Belt performance

MAKE *this* SIMPLE TEST!

What Happens When a V-Belt Bends

FIG. 1

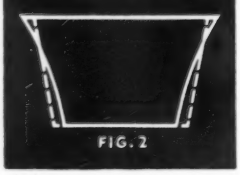


FIG. 2

433

Take any V-belt that has *straight* sides. Bend that V-belt while you grip its sidewalls between your fingers and your thumb—as shown in the large photograph above. As the belt bends, you will *feel* its sides *bulge out*—as shown in figure 1 on the left.

Now do the same thing with a belt that is built with the patented *Concave* side. You get a similar change in sidewall shape—but what a *different result!* The precisely engineered Concave side becomes perfectly *straight*—as shown in Figure 2. This belt, when bent, exactly fits its sheave groove. There is no side-bulge.

Two savings result. FIRST:—The full side of the belt *uniformly* grips the sheave-groove wall. This means *uniform wear—longer life!* SECOND:—The full side-width grip on the pulley carries heavier loads without slippage. This saves belts and power, too!

Only belts built by Gates are built with the Concave side, which is a Gates patent.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

CHICAGO, ILL. 549 West Washington
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GREENVILLE, S. CAROLINA 104 West Washington Street
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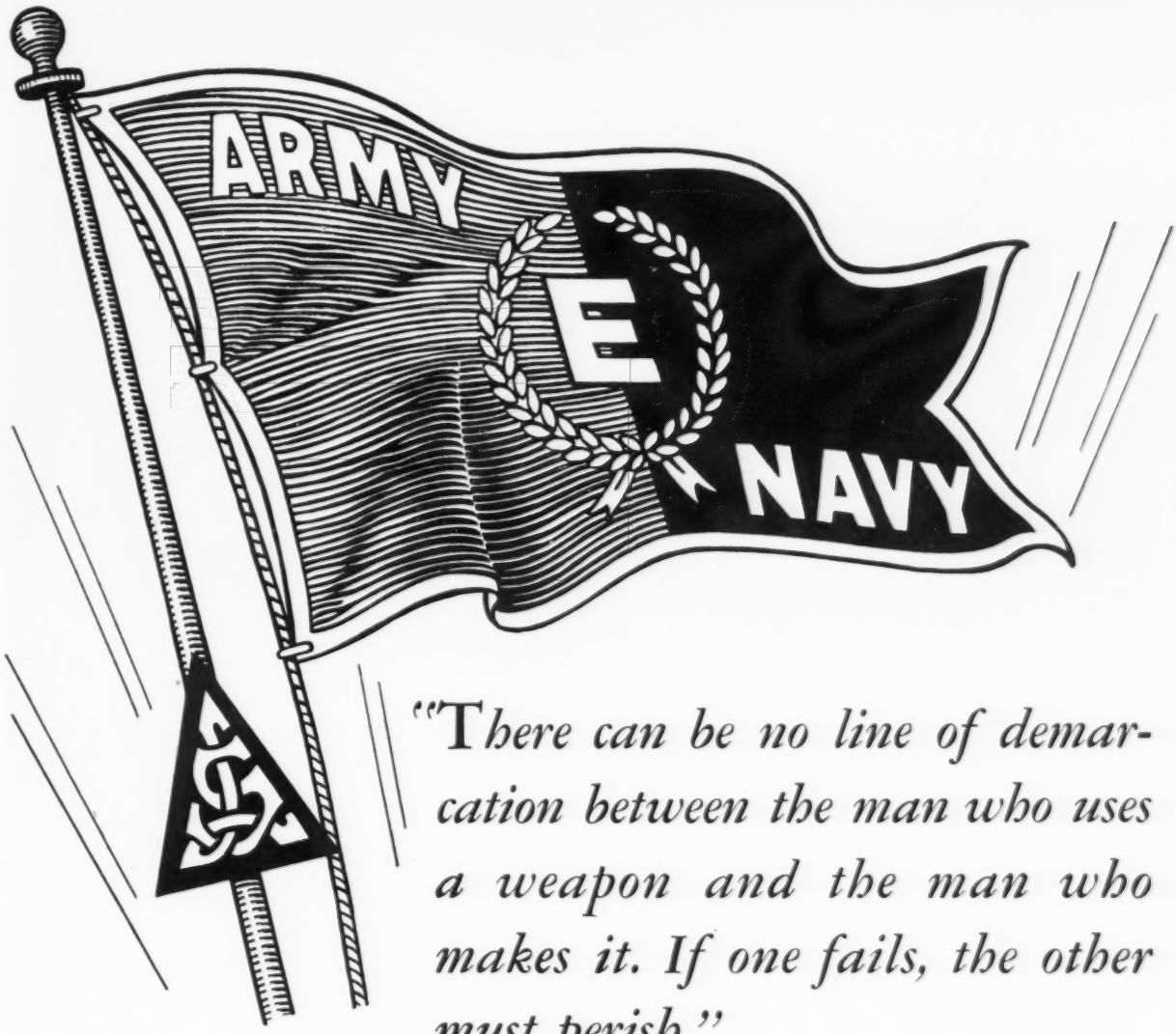


"There can be no line of demarcation between the man who uses a weapon and the man who makes it. If one fails, the other must perish."

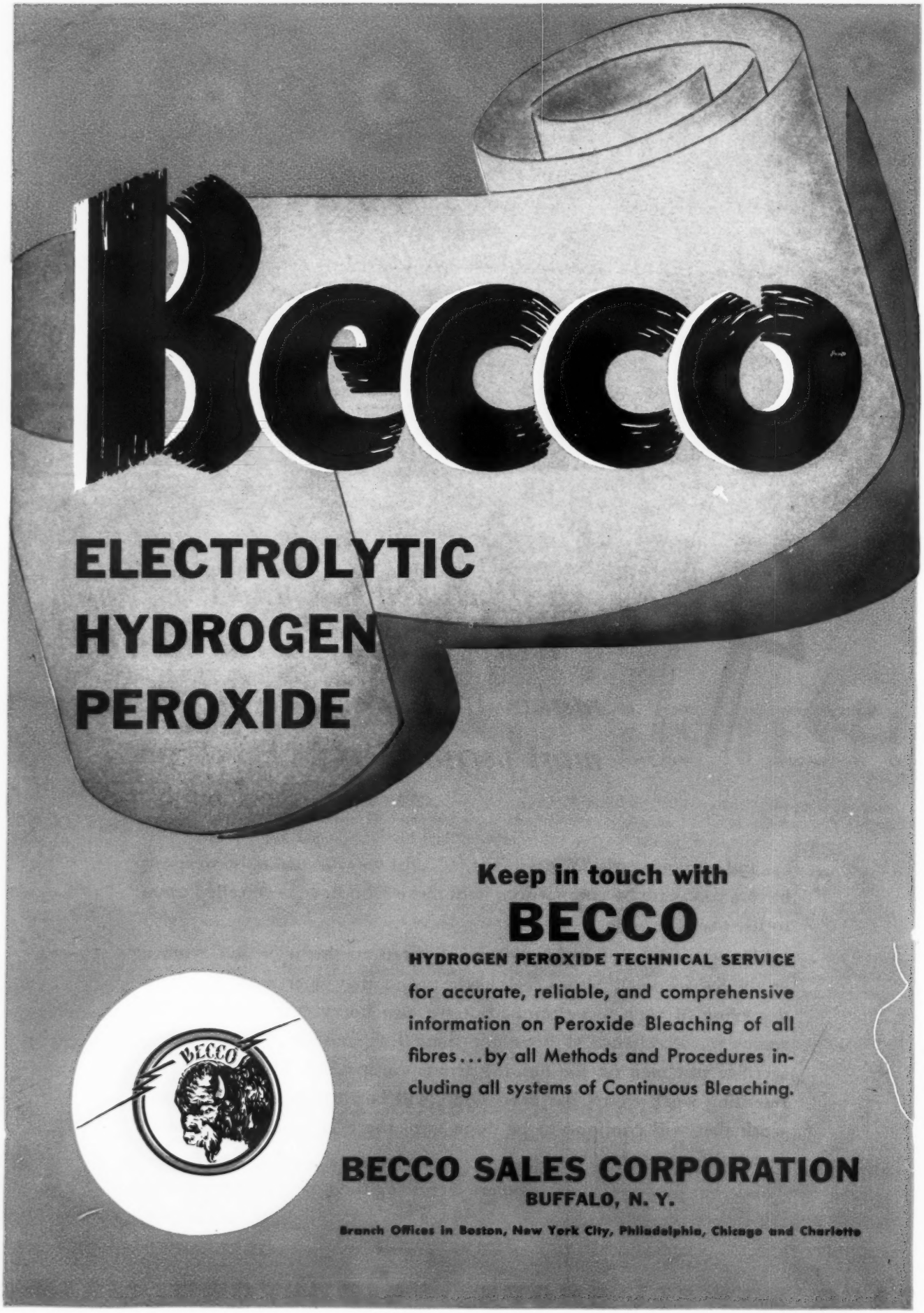
GENERAL DOUGLAS MacARTHUR

. . . and our answer is "We will not fail", for we who make the weapons have a task, easy by comparison, with those who have been called upon to use them.

In being awarded the Army-Navy E citation, the men and women at the Saco-Lowell Shops feel justly proud that their work has been deserving of such recognition. But we also know that while the "E" stands for Excellence, it does not stand for Sacrifice . . . the kind of sacrifice our men on the fighting fronts are making. This award, representing work which has been done, will be a symbol of the greater work that will continue to be done until there is more than enough material for victory.

This is our pledge to those who are sacrificing their all and serving with the colors everywhere.

SACO-LOWELL SHOPS · BIDDEFORD, MAINE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HYDROGEN PEROXIDE TECHNICAL SERVICE
for accurate, reliable, and comprehensive information on Peroxide Bleaching of all fibres... by all Methods and Procedures including all systems of Continuous Bleaching.
BECCO
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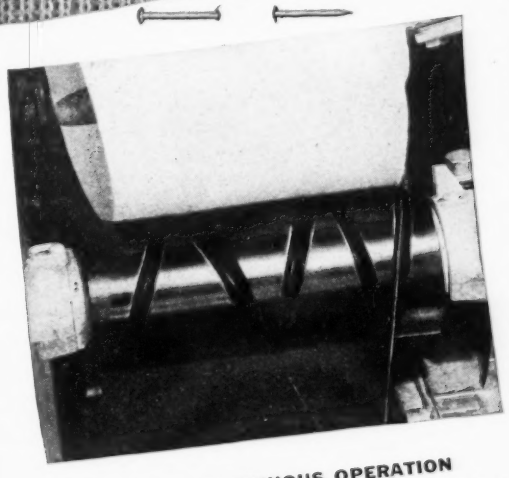
BUFFALO, N. Y.
Branch Offices in Boston, New York City, Philadelphia, Chicago and Charlotte

Coning THAT MAKES MONEY AND DELIGHTS CUSTOMERS

The advantage enjoyed by mills operating Roto-Coners* under wartime hardships . . . makes it likely that when the war is over, more and more open-wound knitting cones will be Roto-Cones*. Higher production per spindle with resultant lowering of winding costs . . . plus assurance of uniformly high-quality cones . . . have convinced many mills that their plans for the post-war future should include additional installations of the truly modern drum winder, the Roto-Coner*.

Universal Winding Company

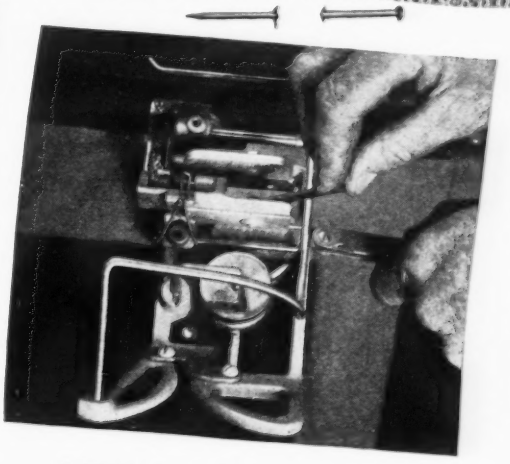
PROVIDENCE BOSTON UTICA PHILADELPHIA CHARLOTTE ATLANTA



FAST, CONTINUOUS OPERATION

The Rotating Traverse is a combination driving drum and grooved traversing device. By taking the place of cams and reciprocating parts, it permits much higher winding speeds and also eliminates stops for repairs or replacement of quick-wearing parts. The absence of cams also means that no greasing is necessary. Since practically all moving parts are enclosed and automatically lubricated, maintenance is no problem.

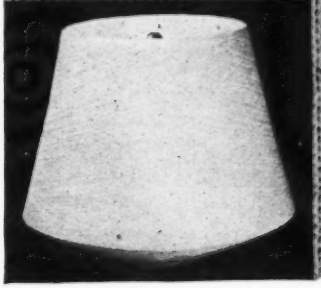
43-44-1



ERROR-PROOF YARN INSPECTION

The Precision Slub Catcher has a patented feature which equalizes the slubbing blades, making it possible to obtain uniform settings on all spindles—without the chance of error due to an operator's "feel". A unique locking arrangement holds the blades securely in a parallel position. Soft-twisted knitting yarns and yarns for dyeing are thus inspected under a uniform control and reach the consumer free from unacceptable imperfections.

*REG. U. S. PAT. OFF.



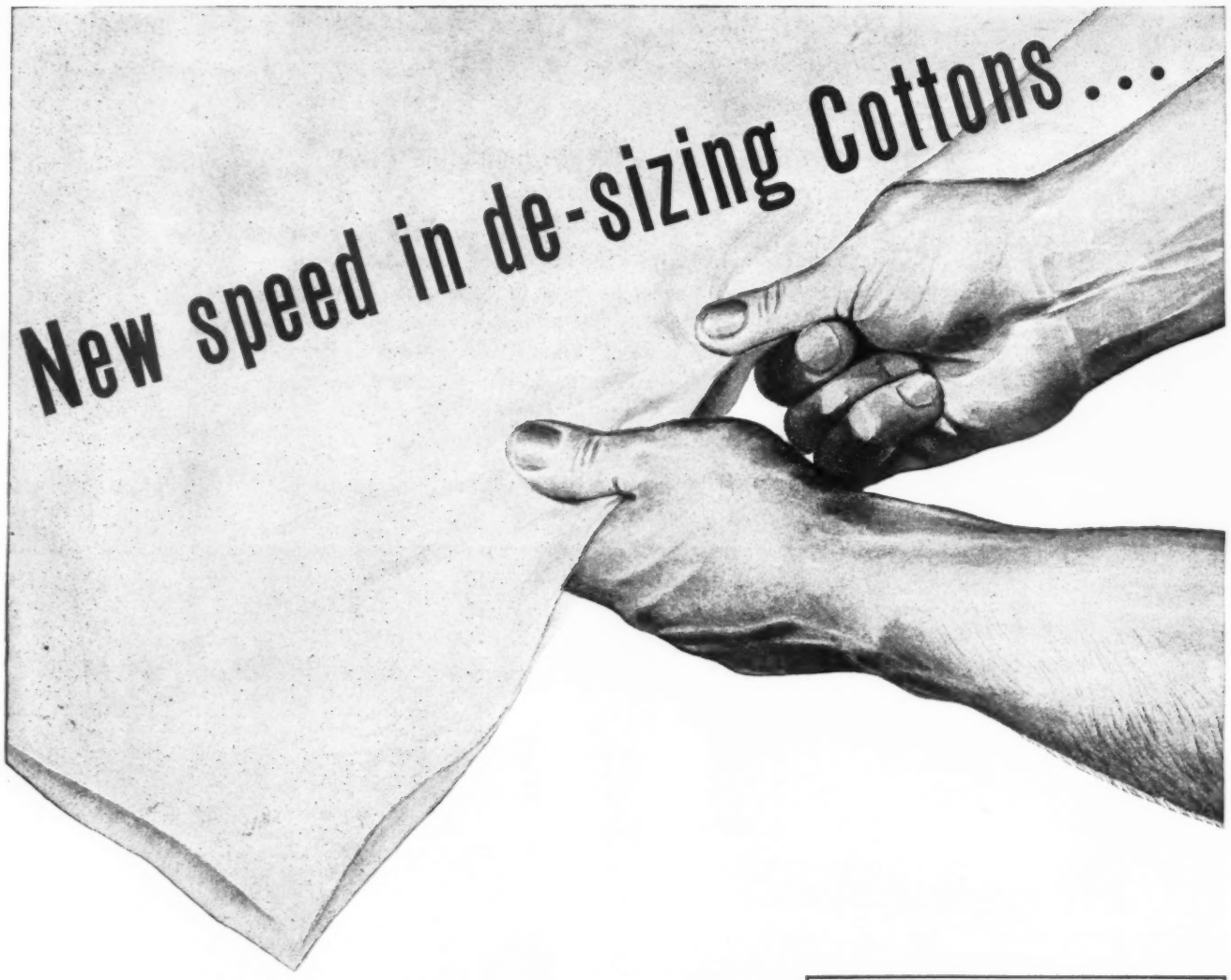
ROTO-CONER

LEESONA

REG. U. S. PAT. OFF.

Open-Wind Cones for Knitting

WARPING CONES . . . DYEING PACKAGES . . . PARALLEL TUBES FOR TWISTING



De-sizing cottons no longer ties up production for hours while goods are steeped. YARMOR 302-W, when made soluble, does the job cleanly, thoroughly, in a fraction of the time required by older methods. Here's how.

First, YARMOR 302-W *penetrates* the warp size, quickly loosens particles of starch and softener. Then it *disperses* these particles evenly in the de-sizing bath. Finally, the YARMOR 302-W *suspends* all size and foreign matter for quick, clean rinsing.

You can do the job faster and cleaner by using de-sizing compounds made with YARMOR 302-W.

YARMOR* 302-W

is not "just a pine oil," but an improved product developed by Hercules especially for the textile industry. It contains the correct balance of terpenes and, when properly compounded, gives greatest wetting, emulsifying and dispersing action. Yarmor 302-W is equally useful in all textile wet-processing operations.

*Reg. U. S. Pat. Office

YARMOR 302-W

NAVAL STORES DEPARTMENT

HERCULES POWDER COMPANY

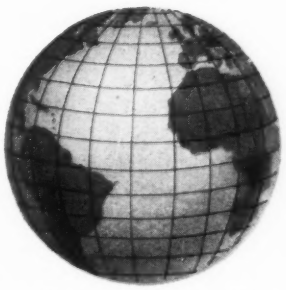
INCORPORATED

WILMINGTON ★ DELAWARE

00-78

1 cleaner wood scouring **2** faster fulling and scouring **3** more even dye penetration **4** better kier boiling of cotton

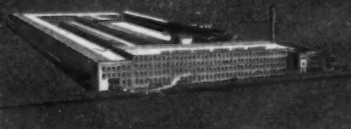
WE'RE PASSING
THE AMMUNITION



Across the broad reaches of the Pacific and to the far coast of Africa, H & B war products are finding their way in ever increasing numbers. Made by Americans, for Americans, to keep America free. ★ ★ ★ Let's all get behind Our Country's war effort until the last shot is fired for Victory, and the boys come marching home.

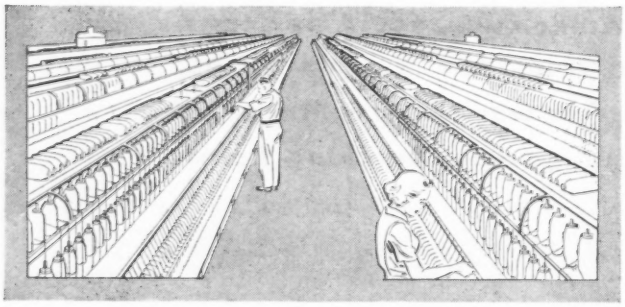
H & B AMERICAN
TEXTILE MILL MACHINERY
Boston Office: 161 Devonshire Street: *Atlanta Office:* 819 Citizens & Southern National Bank Building.

H&B
TEXTILE MILL MACHINERY



MACHINE COMPANY
PLANT AT PAWTUCKET, R. I.
Charlotte Office: 1201-3 Johnston Building. *Export Department:* United States Machinery Co., 115 Broad Street, New York, U. S. A.

Gulf Quality Lubricants have greater stability and endurance — provide the round-the-clock protection you need for maximum production.



NOW that spare parts and new production units are hard to get even with high priorities, protection from wear of hard-pressed equipment now in service has become in many cases a No. 1 management problem.

For a successful fight against wear in *your* mill, here are some of the more important steps you can take today: Make sure that all shafts, bearings, and gears are properly aligned; that provision is made to keep all moving parts clean; and call in a Gulf Lubrication Service Engineer to help you install the best lubrication practice.

From Gulf's complete line, the Gulf Lubrication Service Engineer will recommend oils and greases especially manufactured to meet the present day needs of textile mills—lubricants with greater stability and stamina, that stand up and provide round-the-clock protection for your machines. Result: full capacity production from every unit, a minimum of production lags caused by breakdowns and mechanical troubles, and lower expense for maintenance and repairs.

The helpful counsel of a Gulf Lubrication Service Engineer—and the Gulf line of more than 400 quality lubricants—are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write or 'phone your nearest Gulf office today.

GULF OIL CORPORATION—GULF REFINING COMPANY

GULF BUILDING, PITTSBURGH, PA.

GULF INDUSTRIAL LUBRICATION

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

HAVE YOU READ ABOUT 'EM?

made by the makers of Johnson's famous **WAX-FORTIFIED** *Paints*

For economical wartime maintenance in:

● *Cotton Mills* ● *Knitting Mills* ● *Offices* ● *Warehouses* ● *Silk Mills*
● *Power Plants* ● *Converters* ● *Woolen Mills* ● *Machinery* ● *Housing*

We took the best materials available. We blended them with the same precision and skill which go into all Johnson Products.
And now this new War-Formula Paint is ready . . . ready to help reduce paint maintenance problems and costs to a minimum! In it are retained as many as possible of the advantages of Johnson's Wax-Fortified Paints.

Send for the facts about Johnson's War-Formula Paints and Enamels . . . finishes which provide from 400 to 600 sq. ft. coverage per gallon, finishes whose drying time is uniform, finishes you can brush or spray on, quickly and easily. Mail the coupon today.

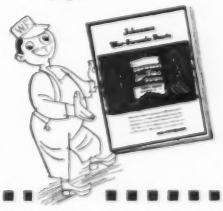
S. C. JOHNSON & SON, INC.
Industrial Maintenance Division, Dept. CO-43, Racine, Wisconsin

TO YOU OUR THANKS . . . AND A PROMISE

To so many of you, we owe our thanks for the reception you have given Johnson's Wax-Fortified Paints and Enamels in the last few years. Their rise in popularity has been remarkable by any standard.
Because some of the products used in Johnson's Wax-Fortified Paints are vitally needed by our government now, we have discontinued the line until after the war, rather than use substitute materials.
But this we promise. When we are able to produce Johnson's Wax-Fortified Paints again, they will be even better than before.

S. C. JOHNSON & SON, INC., Dept. CO-43
Industrial Maintenance Division, Racine, Wisconsin
Please send me a copy of your illustrated booklet, "Johnson's War-Formula Paints," giving complete information on and specifications for the use of Johnson's new War-Formula Paints and Enamels.

"Xtra! Xtra! Read all about it! Send coupon for your copy today!"



Name _____
Position _____
Firm _____
Address _____
City _____ *State* _____

Buy United States War Savings Bonds and Stamps

There's a man-size job cut out for every American!

O.W.I. Photo

Yours is to produce — and fast — the unprecedented quantities of fabrics needed to equip our armed forces. Ours is to provide you with tough, long lasting, accurately made

TUFFER CARD CLOTHING

War has doubled the textile output but is exhausting mechanical equipment at a rate far in excess of normal. This is particularly true of card clothing—because *card clothing takes the rap.*

These conditions dramatize the need for quality. Tufferized Card Clothing is your assurance of top performance.

TUFFER PRODUCTS

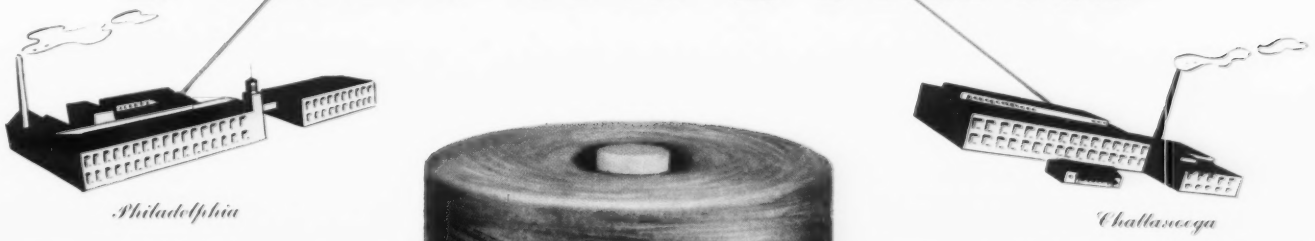
Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas. **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

4 PLANTS WITH 1 PURPOSE



TO DYE YARNS PROMPTLY AND CORRECTLY FOR OUR ARMED FORCES

CARTRIDGE BELT. *One type of military equipment for which we are dyeing yarns.*

PROMPT SERVICE. Send your order to our nearest plant. Probably this plant can give you reasonably prompt service, but if not, your order will be transferred to one of our other plants which is not so busy. Thus there will be no unnecessary delay.

QUALITY. In whichever plant the work is done the quality will be uniform, because the same formula will be used and the same method . . . Franklin Process Package Dyeing. For thorough, level penetration of color this method is unsurpassed . . . probably unequalled. In the present emergency it has "proved its mettle" by successfully dyeing 8/4 and other multi-ply yarns with vat colors for military webbing . . . a job that has proved a stumbling block for more than one dyer. May we help you to help Uncle Sam?

FRANKLIN PROCESS • *Package Yarn Dyers and Colored Yarns* • Providence, Philadelphia, Greenville, Chattanooga; New York Rep., 40 Worth St.; Chicago Rep., 100 W. Monroe St.

★ ★ ★

CIVILIAN WORK. Yarn dyeing for the Victory Program naturally takes precedence in all our plants. However, our total capacity is not always required for Victory orders, so that we can accept a limited amount of civilian business.

Franklin Process

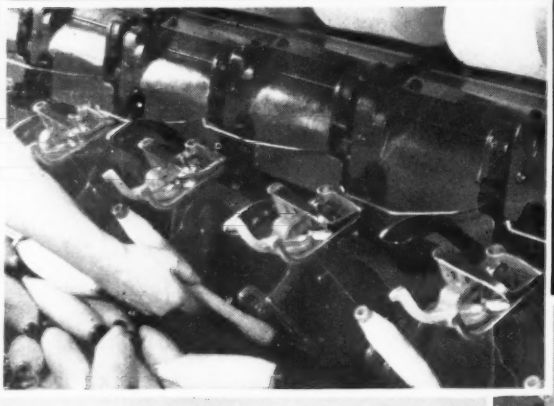
★ LARGEST PACKAGE DYERS IN THE WORLD

A 7 WAY FLEXIBILITY-PLUS!

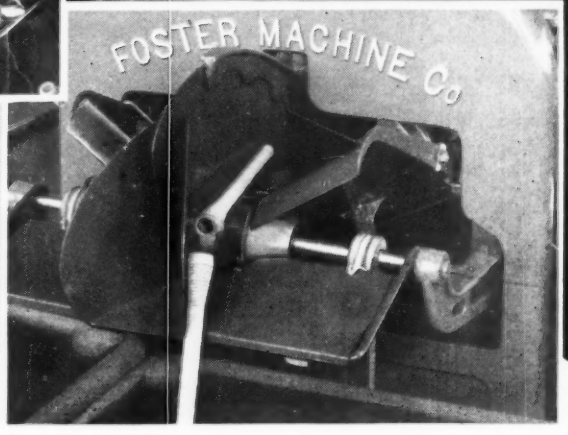
The seven points of flexibility in the Foster Model 102 winder are sufficient buying reasons for almost any mill in these days of sudden conversion and an uncertain future. Nevertheless this machine offers PLUS advantages, including operating convenience which contributes to TWICE THE PRODUCTION WITH 1/3 LESS COST, as compared with older models.

★ ★ ★

For example, the empty-bobbin conveyor is BELOW the bobbin pins, so that the operator merely drops the bobbins when doffing; no lifting up, around or over.



The conveyor also runs UP at the end of the machine so it can discharge DIRECTLY into a standard sized truck. No small boxes, no re-handling. New machines may be equipped with double conveyors so that when different bobbins are used on each side of the machine they will not be mixed.

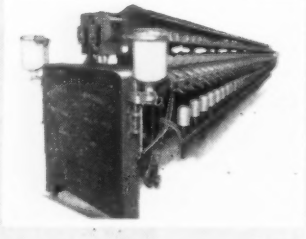


THE 7 FLEXIBILITY FEATURES:

1. Any kind or count of staple yarn.
2. Any outside taper of straight or convex base cones.
3. 9 different angles of wind from 9° to 18°.
4. Will wind package dyed yarn even if damp.
5. May be equipped with emulsion attachments.
6. Changeovers from cones to tubes, or vice versa, simple and comparatively inexpensive.
7. One side tubes and other side cones, if desired.

Let Model 102 Flexibility prepare you for the future.

FOSTER MACHINE CO., Westfield, Mass.
Southern Office, Johnston Bldg., Charlotte, N. C.



FOSTER MODEL 102

FOR WINDING COTTON, MERCERIZED, WOOLEN, WORSTED, MARINO, SPUN SILK AND SPUN RAYON YARNS

FOR FINER KHAKIS

USE THIS ALL-PURPOSE COMBINATION OF CHROME COLORS

METOMEGA CHROME BROWN RLL

METOMEGA CHROME YELLOW ME

OMEGA CHROME BLACK BLUE G

Imagine a combination of chrome colors that dyes *all* chrome methods... meets *all* fastness requirements... and dyes uniformly on *all* kinds of stock! Sounds almost too good to be true—but Sandoz has developed a group of three chrome colors that meets every requirement for top-grades of government khaki.

Here's an "O. D. combination" that dyes "tippy wool" level ... has excellent fastness to light, carbonizing and fulling for all manufacturing processes. What's more, it can be applied successfully to all types of fabrics. Write today for full details.

SANDOZ

SANDOZ CHEMICAL WORKS, INC., 61-63 Van Dam Street, New York, N. Y.

BOSTON, MASS. • CHARLOTTE, N. C. • PATERSON, N. J. • PHILADELPHIA, PA. • PROVIDENCE, R. I. • CHICAGO, ILL. • LOS ANGELES, CALIF.

BEARINGS OR BULLETS

Today, more than ever before, man-hours are the dominating factor whether in the manufacture of bearings or bullets. Therefore, by making bearings last longer more man-hours can be applied to production of bullets—and that's important these days.

BALL BEARING LUBRIPLATE will, by virtue of its outstanding lubrication and protection features, make your ball and roller bearings last longer. LUBRIPLATE is different from any lubricant you ever used. It possesses characteristics not to be found in ordinary lubricants.

Just think what it would mean to you if you could double or treble the life of your anti-friction bearings—reduce replacement bearing and labor costs—avoid unnecessary production interruptions. That is exactly what scores of manufacturers are accomplishing with BALL BEARING LUBRIPLATE.

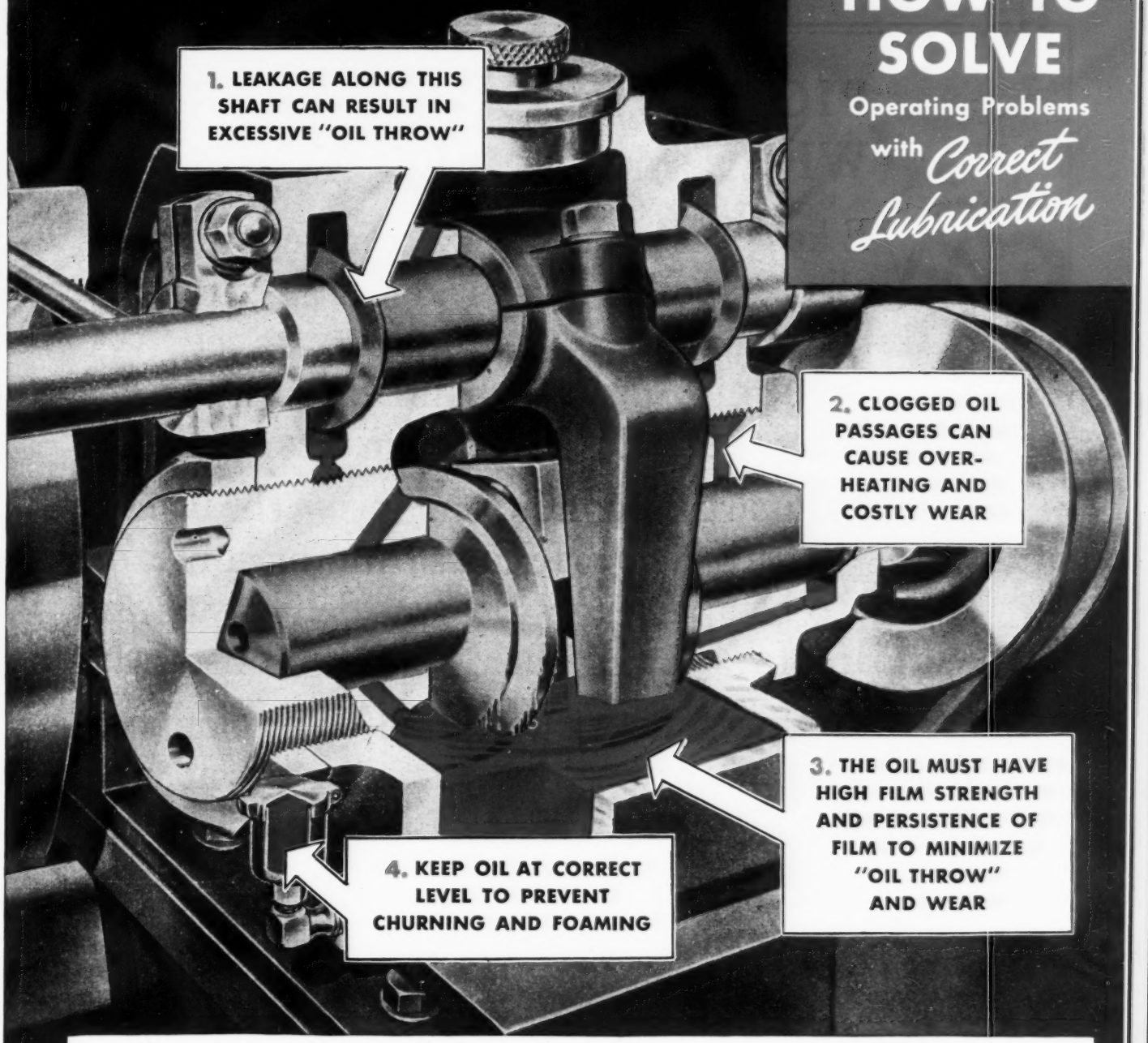
Your investment in ball and roller bearings is certainly great enough to warrant your investigation of BALL BEARING LUBRIPLATE. Write today for your free copy of "THE LUBRIPLATE FILM" No. 1-43 containing valuable information on the lubrication and care of ball and roller bearings.

LUBRIPLATE DIVISION
FISKE BROTHERS REFINING COMPANY
NEWARK, N. J. **SINCE 1870** TOLEDO, O.
WRITE FOR THE NAME OF THE DEALER NEAR YOU

ONE OF A SERIES OF SUGGESTIONS TO AID PRODUCTION

HOW TO SOLVE

Operating Problems with *Correct Lubrication*


1. LEAKAGE ALONG THIS SHAFT CAN RESULT IN EXCESSIVE "OIL THROW"
2. CLOGGED OIL PASSAGES CAN CAUSE OVER-HEATING AND COSTLY WEAR
3. THE OIL MUST HAVE HIGH FILM STRENGTH AND PERSISTENCE OF FILM TO MINIMIZE "OIL THROW" AND WEAR
4. KEEP OIL AT CORRECT LEVEL TO PREVENT CHURNING AND FOAMING

End Comb Box Trouble

PROBLEM: Excessive heating and leakage are the chief comb box lubrication "troubles." They result in "oil throw" and staining of yarn. Heating can be due to unsuitable lubricant, clogged oil passages or high oil level which causes excessive churning. Leakage can result from wear, improper setting, excessive foaming or incorrect venting of the box.

ANSWER: Use an oil specially designed for this type of problem, and be sure the oil is kept at the right level.

You'll find Gargoyle Vactra Oil is ideal for this application. Its high film strength and persistence of film help minimize wear and "oil throw." It will not leave clogging deposits in oil passages. The Socony-Vacuum man will gladly advise on correct oil level.

GARGOYLE Lubricants

SOCONY-VACUUM OIL COMPANY, INC. — Standard Oil of N. Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. White Eagle Div. • Wadhams Div. • Southeastern Div. (Baltimore) • Magnolia Petroleum Co. • General Petroleum Corp.

CALL IN SOCONY-VACUUM

PICKER REPAIR PARTS WHEN YOU NEED THEM

WE keep on hand a very complete stock of all parts for Kitson pickers, and can usually ship the same day an order is received. We also can furnish beaters, ball bearings, screens and many other parts for other makes of pickers.

Under wartime conditions, it is of the utmost importance to keep machines running constantly and to be able to get prompt delivery on repair parts for keeping them running constantly.

In an emergency, a telegram or a telephone call will have the necessary repair parts at your plant the following day.

It is also a good idea to check your stock room and order picker parts on which the stock is low or is exhausted.

We can completely rebuild your pickers exactly like new, and when pickers are practically worn out and in need of more than ordinary repair parts, they can be completely renewed at far less than the cost of new machines with new frames.

AldricH MachinE

Greenwood, WorkS South Carolina

Save Copper and Steel with Leather Belting and Modern Group Drives

THIS WASTES!

In one typical case, four machine tools are individually driven by four 7½ hp. electric motors. These motors contain a total of approximately 112 pounds of war-vital copper in windings alone . . . and an estimated 122 pounds are used for controls and wiring. This means a total consumption of 234 pounds of copper. These four motors also contain about 745 pounds of steel that is urgently needed for guns, tanks and ships.

"The supply of copper is not adequate and never will be while this war is on," the Director of the WPB Copper Division recently stated. And the same is true of steel. Every means of preventing waste of these and other essential materials *must* be adopted by Industry!

Leather Belting, used in conjunction with Modern Group Drives, can save large quantities of these critical materials. Here are the facts . . .

THIS SAVES!

With Modern Group Drives and Leather Belting, these same four machines could be driven by *one* 20 hp. motor . . . using only 55 pounds of copper in windings and about 60 pounds for wiring and control, a total of 115 pounds. Compare this with the wasteful use of 234 pounds of copper in the individual drive set-up. *Here is a saving of 51% in copper alone!*

Furthermore, this 20 hp. motor contains only 370 pounds of steel . . . against 745 pounds in the four 7½ hp. motors . . . *a saving of 50%!*

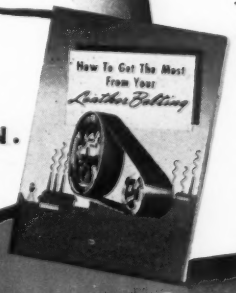
This is typical of the economies that can be made in the average factory through the use of Modern Group Drives and Leather Belting, which usually reduces connected horsepower *anywhere from 25% to 45%.*

Other equally important wartime advantages of Leather Belting in Modern Group Drives include: saving manpower — lowering power consumption — increasing production — reducing shutdowns — cutting maintenance. For *complete* information on these efficient drives, get in touch with your regular Leather Belt supplier *now.*

Ask Your Belting Supplier for this Booklet . . . or write

AMERICAN LEATHER BELTING ASSN.

53 PARK ROW, NEW YORK, N. Y.



Rely on Leather Belting

HE DIDN'T RUN FOR OFFICE...

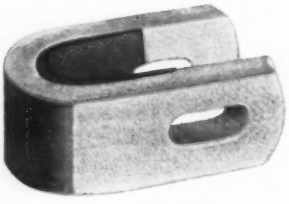
HE'S JUST A VICTIM OF "BUYING DISPERSION"

In other words he's shaken hands with too many salesmen. He also talks in his sleep;—"Take a letter to this" and "Take a letter to that" or "who supplied this?" and "who supplied that?"

"Buying dispersion" (buying from many different sources) is often unnecessary. For instance you can buy spinning tape, braided or twisted banding and rope (for preparatory, spinning or twisting machinery) and canvas lug straps,—all from one source,—Lambeth. By so doing you write 1 letter or 1 order instead of 3; interview 1 salesman instead of 3. You save time, temper and money and concentrate responsibility.

And you lose nothing in quality. For 50 years Lambeth has been a "quality first" mill. Lambeth products are made only one way,—the best way with the best materials.

"BILTRITE" (PATENTED)



CANVAS LUG STRAP

This new product is an outstanding example of Lambeth quality. It's built up and molded in one continuous operation. The glue has no chance to set before the molding is completed. Longer life is thus obtained.

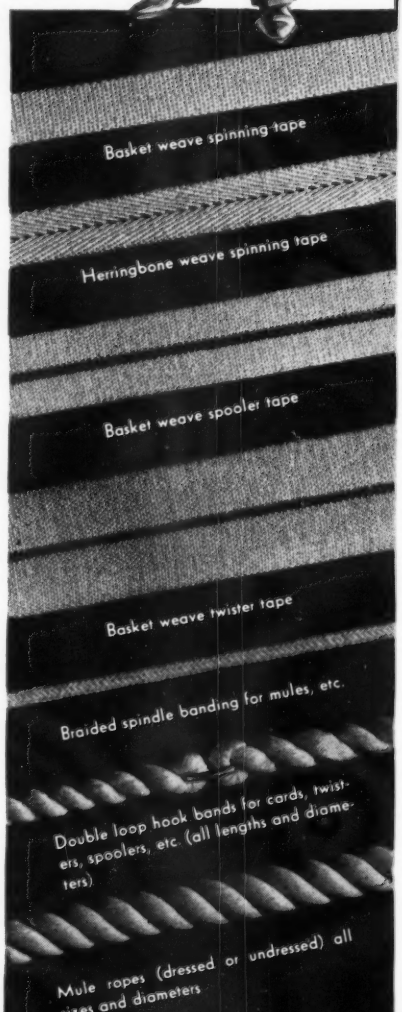
When you think of preparation, spinning, or weaving think of–

LAMBETH ROPE CORPORATION

NEW BEDFORD MASSACHUSETTS

Southern Office: Johnston Bldg., Charlotte, N. C. • Manufacturers of Spinning Tape, Rope and Banding • Also Sales Agents for Lambeth Products Corp., Antrim, N. H.

Makers of Canvas Lug Straps


Basket weave spinning tape
Herringbone weave spinning tape
Basket weave spooler tape
Basket weave twister tape
Braided spindle banding for mules, etc.
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes (dressed or undressed) all sizes and diameters

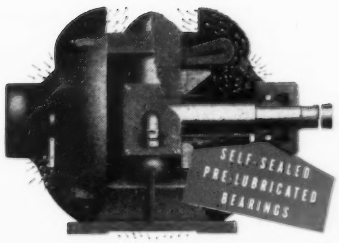
The Lambeth Line

1 SUPPLY SOURCE FOR 3 DEPARTMENTS

PREPARATION • SPINNING • WEAVING

How to keep textile machines running continuously

lint won't choke these motors ...it goes in—through—and out



One-piece skeleton frame aids ventilation and inspection. Note the large air passages which direct the air flow around the stator windings — and out again. Clean, cool, continuous motor operation is assured.

Its name is the Westinghouse Lint-Free Motor. But textile maintenance men call it "The Profit-Maker Motor"— for these reasons:

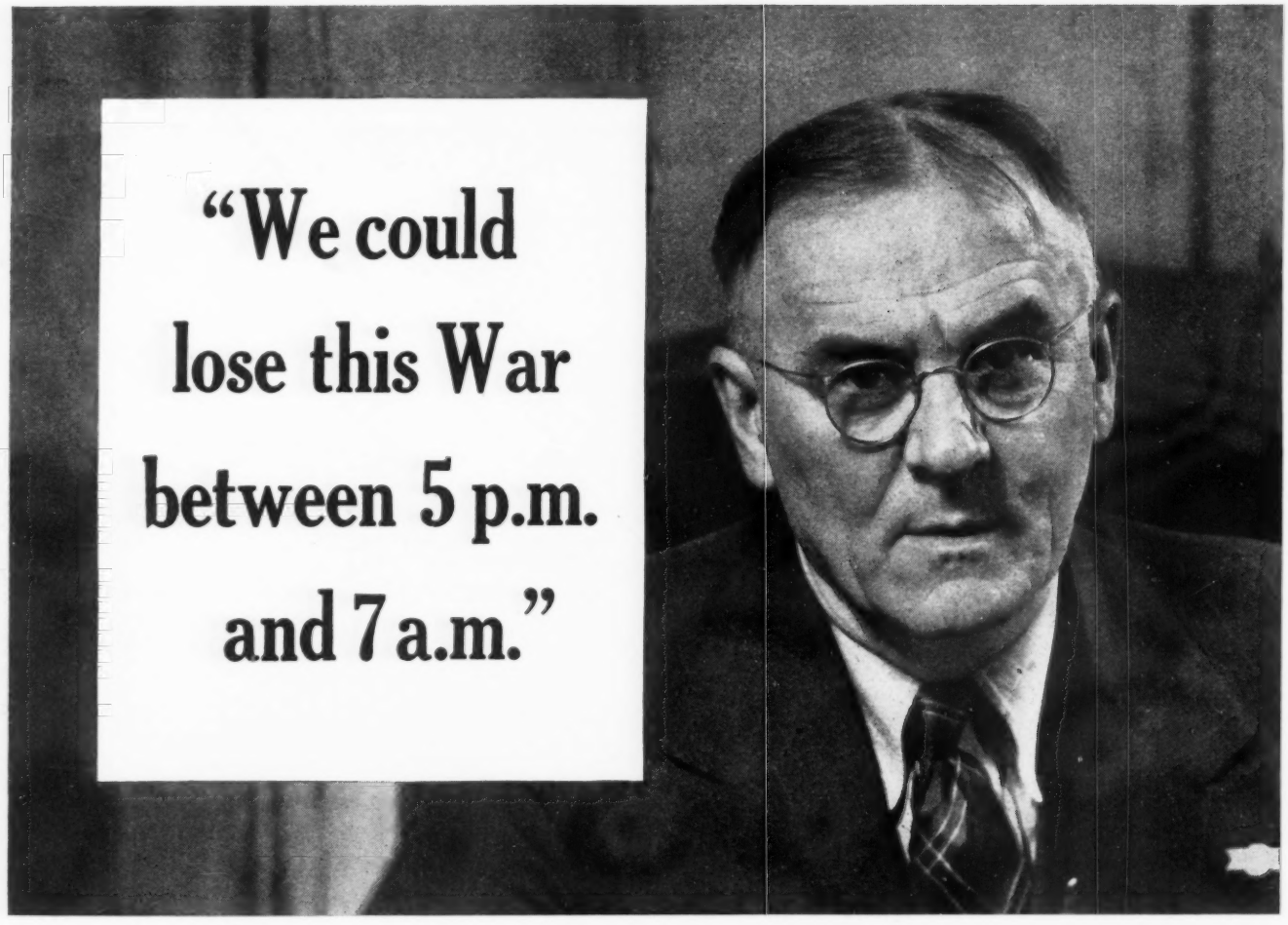
Lint filters most everywhere in a textile mill. Yet, it can't stay in a Westinghouse motor. It's specially designed *to keep lint out.* Air circulates freely through unobstructed air passages. Inner surfaces are slick and smooth, without pockets or corners. Lint goes in, through and *out.*

Factory lubricated, self-sealed ball bearings keep grease in, lint out. There's no need for a further check-up, until three years have passed.

With bearings that need no lubrication — with air passages that clean themselves, you have far less motor maintenance — fewer shut-downs — more continuous production. For complete details of this profit-making Lint-Free Motor—see your Westinghouse representative at once. Or write for descriptive folder DD-3175. Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pennsylvania, Dept. 7-N. J-81219

Westinghouse

LINT-FREE MOTORS



JOHN BLAZEK, the author of this remarkable statement, is the production manager of a war-material plant in a midwestern city.

"I'M no pessimist. But I'm telling you the hours between sunset and sunrise can be the most critical hours of this war. Not on the battlefronts, but in the factories and shops where they're making the things our boys must have to win the final victory.

"My factory has been working on important war contracts. Daytime production was as good as could be expected. But night production was 40% behind schedule. The employees worked just as hard. They seemed more tired than the day crew. But they weren't making the grade.

"I knew a dozen things might be wrong, but I had an idea one trouble might be the lighting. So I called in a lighting man and put it up to him.

"He made a careful study. Then he showed me what *was* wrong with the lighting, particularly as it affected the night workers. I was willing to try *anything* that might help, so we made the changes he recommended. Today, under the new improved lighting, our night shift workers are running neck and neck with the rest.

"I don't know how many other plants have been having this same trouble. But if production generally is lagging behind on the night shifts—those hours between 5:00 P. M. and 7:00 A. M.—*we could lose this war.* Unless we do something about it right away.

"As one production man to another, all I know is, if you're having night shift trouble, one thing you'd better check up on is your lighting. It may help you. It certainly helped us."

☆ ☆ ☆

If you are running a war factory, won't you have your lighting checked? Call the nearest G-E lamp office. Or see your electric service company or your G-E lamp supplier. Or write General Electric Company, Nela Park, Cleveland, Ohio.

G-E MAZDA LAMPS

GENERAL ELECTRIC

IMPROVE *your* V-BELT DRIVES

ROCKWOOD *automatic belt tightening* MOTOR BASES

Rockwood automatic belt tightening motor bases used with new V-belt drives by the Columbus Manufacturing Co.

ADD AUTOMATIC BELT-TIGHTENING TO YOUR V-BELT DRIVES

Cotton mills generally accept the increased production and improved quality of work resulting from installation of Rockwood automatic belt tightening motor bases. Most new spinning and twisting frame drives now use them.

But you do not have to limit their use to new installations. If you have old machines with either V-belts or flat belts *you can step* up their production, too, by installing Rockwood bases under the existing motors. You may even be able to use the present belts.

If you do this you will secure an immediate improvement in uniformity of driven machine speeds . . . while your belts will last nearly twice as long. You also will save on belt adjustments and maintenance. The job of changing can be handled in machine groups. We will be glad to help you on any proposed changes.

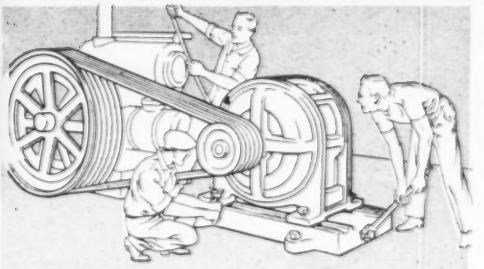
ROCKWOOD MANUFACTURING COMPANY

Indianapolis, Indiana

ROCKWOOD V-BELTS AND V-SHEAVES

ROCKWOOD PAPER PULLEYS

ROCKWOOD PIVOTED MOTOR BASES



NO MORE OF THIS

Manual belt "take-ups" are no longer good practice and you do not have to put up with them. The Rockwood automatic belt tightening base gives you more drive efficiency, makes the belts last longer and saves in power and maintenance.

Install Rockwood drives and your driven machines will perform better and do more work. It automatically tightens the belts to match load changes—or changing belt lengths.

SCIENTIFICALLY ENGINEERED
FOR EVERY INDUSTRIAL USE

TYCOL

FIRE

This is #2 of a series of informative messages concerning the meaning and significance of commonly used tests and terms employed to describe the characteristics of lubricating oils.

T I D E W A T E R L U B R I C A N I A

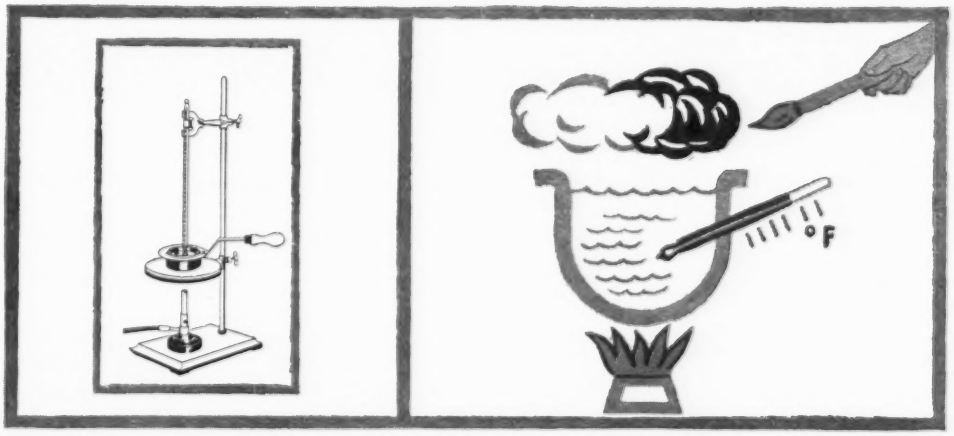
DEFINITION: That temperature at which a lubricating oil will first give off sufficient vapors to ignite when approached by a small flame or spark is termed the flash point—the lowest temperature at which when ignited, the oil continues to burn is called the fire point.

TEST: The flash point and the fire point of lubricating oil are usually determined by means of the Cleveland Open Cut Tester by following a definitely prescribed procedure. The oil under test is heated and a small pilot flame is moved over the cup with every 5°F rise in oil temperature. The first time a flash occurs on the surface of the oil, the temperature of the oil is recorded as the flash point. If the oil is heated still further and tested with the pilot flame, it will commence to burn with a continuous flame. When this occurs the oil temperature is recorded as the fire point.

For most purposes knowledge of the Flash Point alone is sufficient. It indicates the ordinary fire hazard in handling petroleum fuels and similar volatile products. With lubricating oils, Flash Points sufficiently high to avoid undue evaporation losses in service are definitely required.

The following illustrates examples of flash points of typical petroleum products, fire points being somewhat higher:

Gasoline .....below 0°F	Kerosene .....115-150°F
Cleaning Naptha ....110-115°F	Light Machine Oil....325-400°F
Heavy Cylinder Oil..525-625°F	



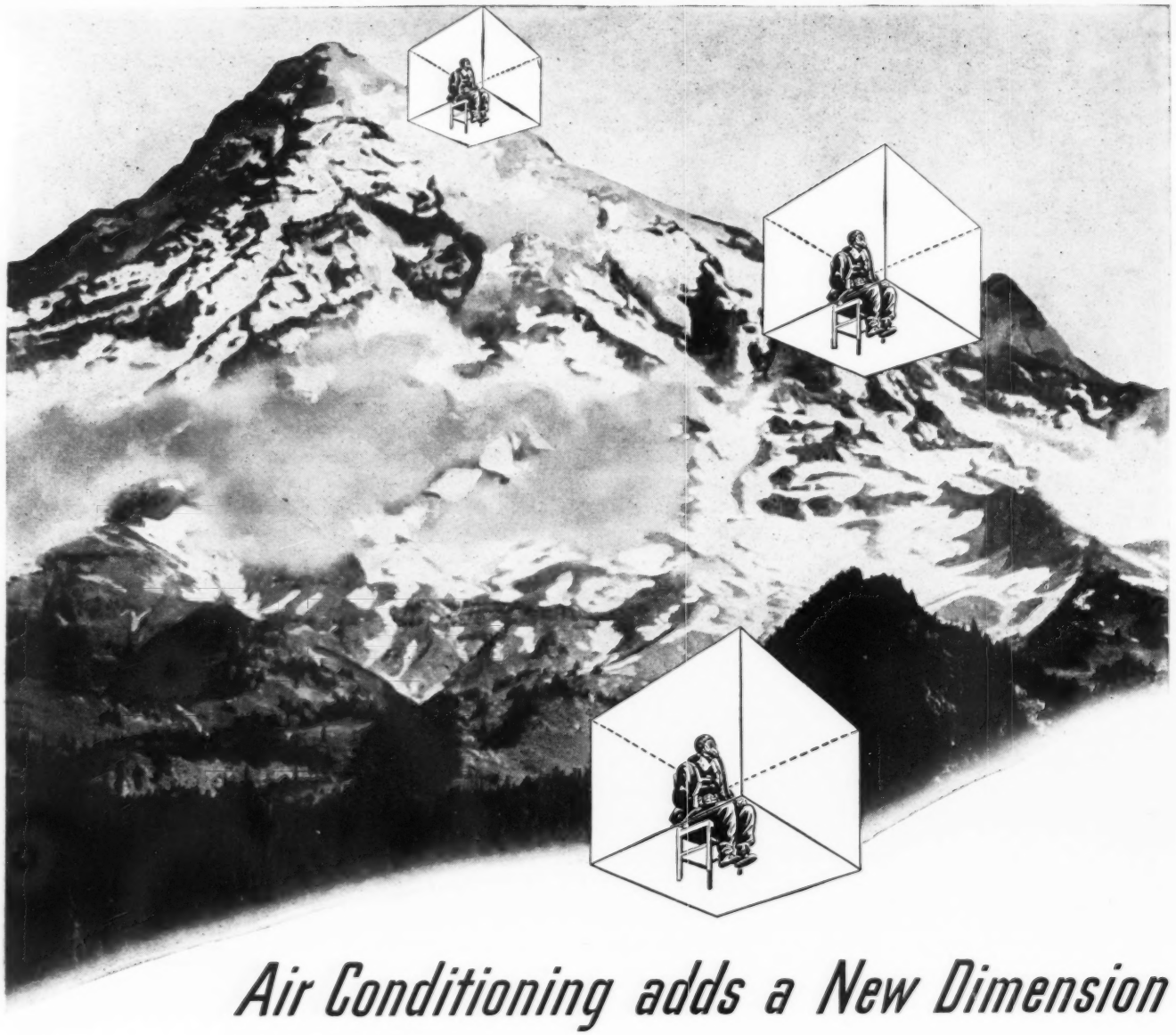
Tycol lubricants are subject to rigid flash point control during manufacture. Uniformly correct flash points, insuring undiluted products in every grade, are one of many Tycol characteristics contributing to high quality.

TIDE WATER ASSOCIATED OIL COMPANY

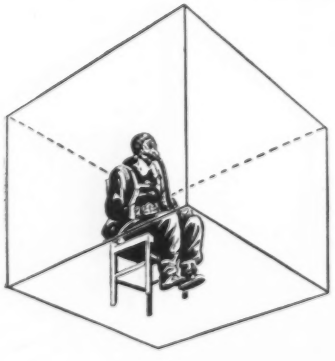
Eastern Division: 17 Battery Place, New York • *Principal Branch Offices:* Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

MAKERS OF THE FAMOUS VEEDOL MOTOR OIL

INDUSTRIAL LUBRICANTS



Air Conditioning adds a New Dimension



Originally, people thought of air conditioning only in terms of *temperature.* It cooled the air on a warm day. Temperature was air conditioning's *first* dimension.

Then came a second dimension . . . *movement.* Air had to be moved . . . under control.

Then a third dimension . . . *humidity* . . . control of the amount of moisture in the air.

Then, air conditioning took on a fourth dimension . . . *dust exclusion.*

And now, air conditioning is cooperating in an important new field . . . controlled air *pressure.* This is needed for the testing of men and equipment under the conditions of stratosphere flying.

Today, air conditioning faithfully reproduces *exact climates* . . . from the parched heat of the Sahara to the frigid cold of Northern Russia. The equipment that does this must be more flexible, more compact than ever before . . . with precise control of temperature and humidity.

This equipment . . . from General Electric . . . speeds up America's war effort. When peace comes, this improved air conditioning will become available for many new uses.

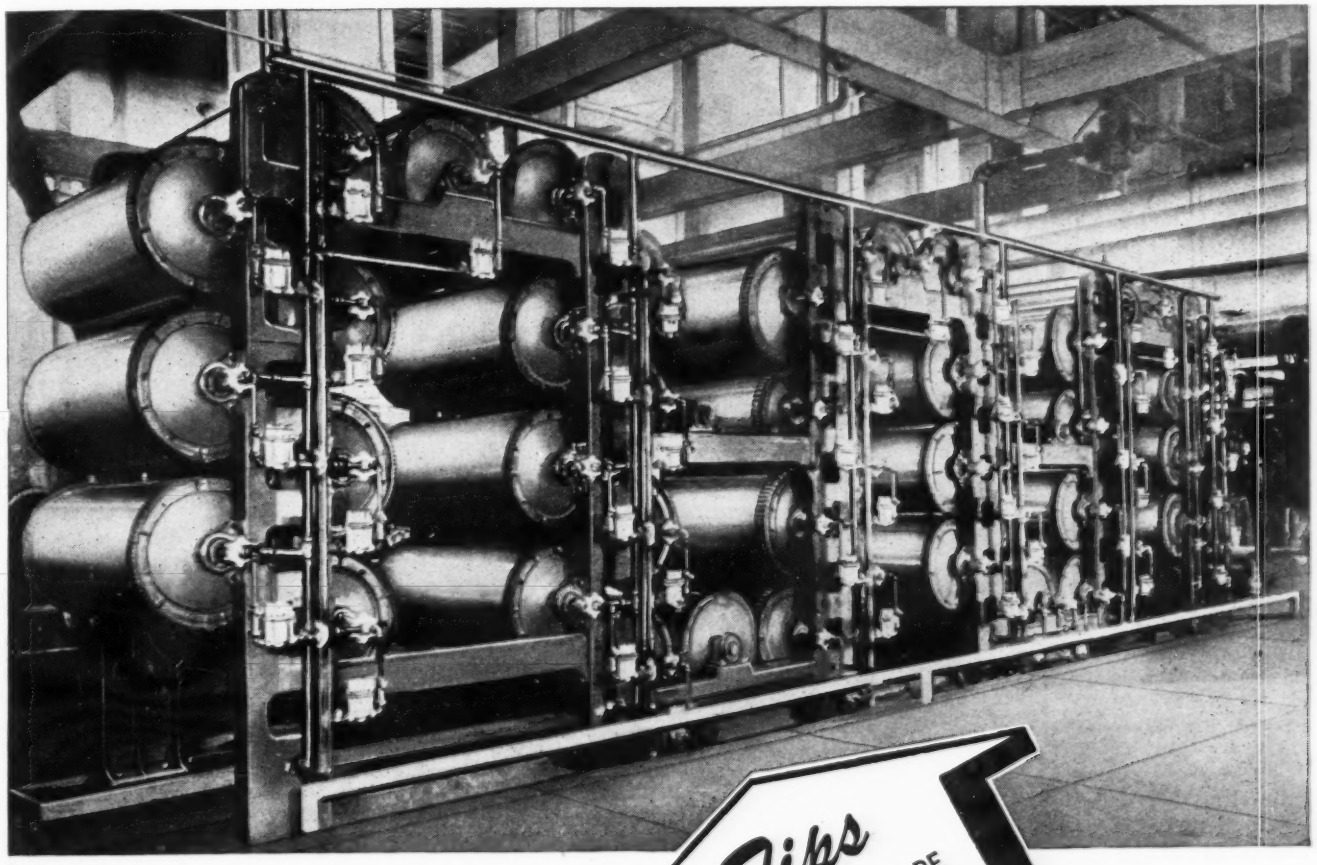
Then, as now, look to General Electric as the outstanding supplier of up-to-date air conditioning and industrial refrigeration equipment of all kinds.

Air Conditioning and Commercial Refrigeration Department, Division 434, General Electric Company, Bloomfield, New Jersey.

Air Conditioning by

GENERAL ELECTRIC

DRYERS *THAT KEEP BUSY*
WITH THE RIGHT BEARINGS



● *Built by*
H. W. BUTTERWORTH & SONS CO.

Butterworth engineers do not take chances on the performance of the bearings on which this 50-Stack Vertical Dryer runs. They can't afford to. Bearing trouble on this machine would mean a slowdown in the drying of vital materials for the armed forces. By using SKF Bearings, they avoid bearing trouble . . . and obtain smooth performance through their inherent self-aligning feature. Cleanliness is also a certainty because SKF's require only infrequent lubrication despite adverse temperature conditions. When Production puts it up to a bearing, that bearing is usually an SKF. 5250

SKF INDUSTRIES, INC., PHILA., PA.

Tips
ON BEARING CARE
To make present equipment last longer

1. Use clean lubricant recommended by the manufacturer of this machine.
2. Avoid loads and speeds beyond those recommended by the manufacturer.
3. If necessary to remove bearings, keep them properly lubricated. Avoid the intrusion of water and dirt. Apply pressure on the inner race only. Don't hammer outer race.

SKF
BALL AND ROLLER BEARINGS

L. F. Dommerich & Company

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WITH
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BELT TREATMENT
FOR ALL LEATHER, COTTON, HAIR, RUBBER AND BALATA BELTS
PREVENTS SLIPPING - PREVENTS POWER BELTS PERMITS SLACK OPERATION
VALUABLE FACTS FREE
Handbook of MODERN MECHANICAL POWER TRANSMISSION for Industry

★ Cling-Surface Belt treatment is in the thick of the battle--on the fighting fronts --throughout Industry---wherever belts drive on to Victory. Cling-Surface helps them to serve longer and deliver up to 40 % *more* power. Cling-Surface meets U. S. Government specifications. Order Cling-Surface from your mill supply house today.

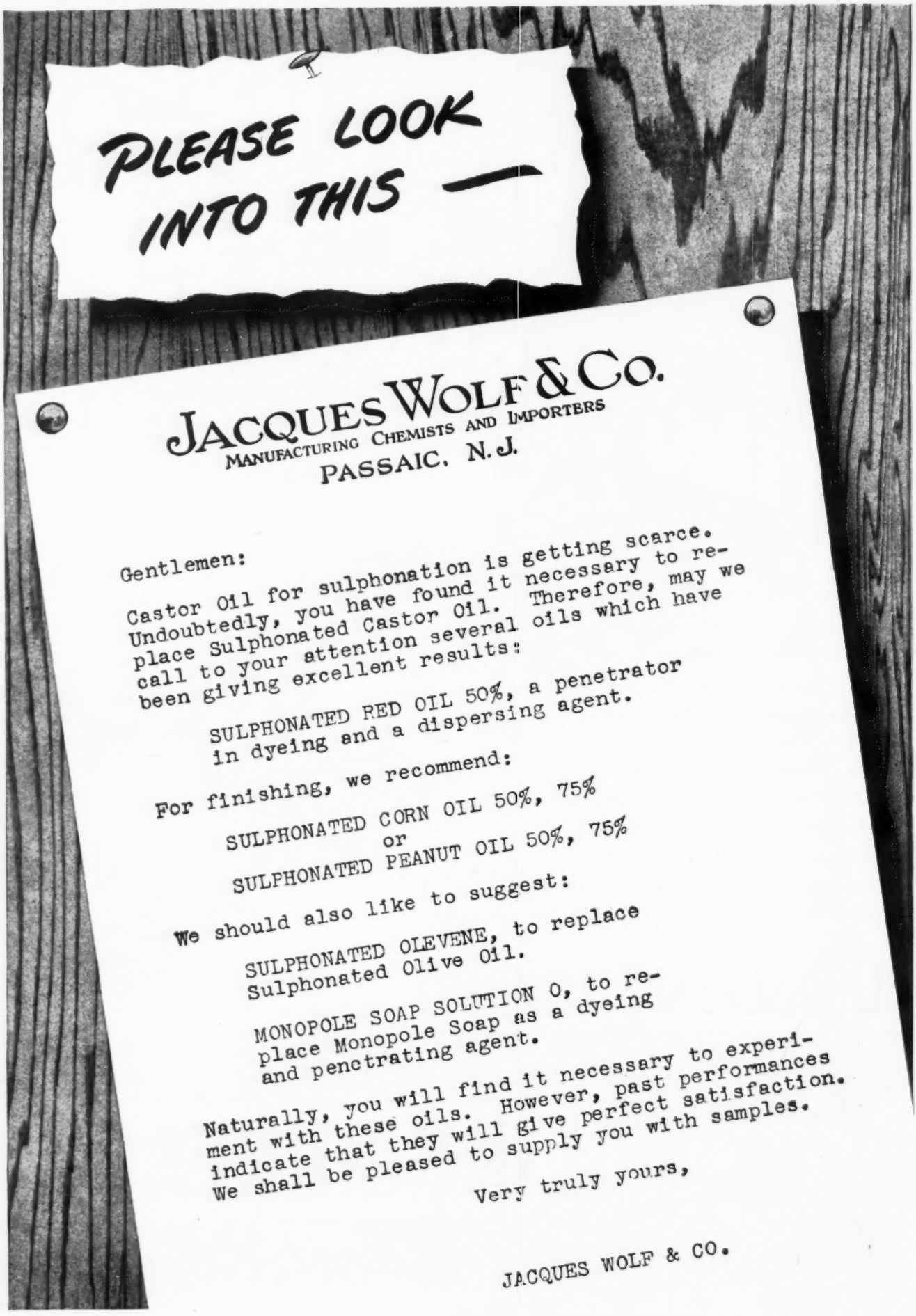
CLING-SURFACE COMPANY 1036 Niagara St. Buffalo, N. Y.

SPEED-UP PRODUCTION ★ REDUCE WEAR

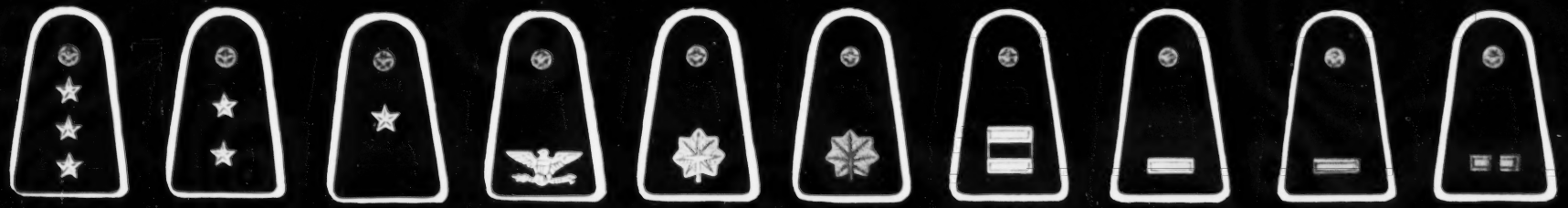
with

CLING-SURFACE

Belt Treatment


PLEASE LOOK INTO THIS —
JACQUES WOLF & Co.
MANUFACTURING CHEMISTS AND IMPORTERS
PASSAIC, N. J.
Gentlemen:
Castor Oil for sulphonation is getting scarce. Undoubtedly, you have found it necessary to replace Sulphonated Castor Oil. Therefore, may we call to your attention several oils which have been giving excellent results:
SULPHONATED RED OIL 50%, a penetrator in dyeing and a dispersing agent.
For finishing, we recommend:
SULPHONATED CORN OIL 50%, 75%
or
SULPHONATED PEANUT OIL 50%, 75%
We should also like to suggest:
SULPHONATED OLEVENE, to replace Sulphonated Olive Oil.
MONOPOLE SOAP SOLUTION O, to replace Monopole Soap as a dyeing and penctrating agent.
Naturally, you will find it necessary to experiment with these oils. However, past performances indicate that they will give perfect satisfaction. We shall be pleased to supply you with samples.
Very truly yours,
JACQUES WOLF & CO.

INSIGNIA OF THE U. S. MARINES



LIEUTENANT GENERAL | MAJOR GENERAL | BRIGADIER GENERAL | COLONEL | LIEUTENANT COLONEL | MAJOR | CAPTAIN | 1st LIEUTENANT | 2nd LIEUTENANT | WARRANT OFFICER

MARINES (Enlisted) | OFFICER (Marines) | ADJUTANT & INSPECTOR'S DEPT. | QUARTERMASTER'S DEPT. | PAYMASTER'S DEPT. | BRIG. GENERAL'S AIDE | AVIATION CADET | GUNNER (Chief and Warrant

AVIATOR Breast Emblem | AVIATION OBSERVER Breast Emblem | PARACHUTIST Breast Emblem | BAND LEADER | CHIEF GUNNER

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RIGID AIRSHIP | PARACHUTE MAN | GUN POINTER | GUN CAPTAIN | GUN POINTER, 1ST CLASS | MASTER HORIZONTAL BOMB

BUY U. S. WAR BONDS — REGULARLY EVERY PAY DAY

© 1942 by Thomas R. Dixon
The Louis Allis Co. Milwaukee

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

The Key to one of Your Post-War Problems

RE-CONVERSION of textile manufacturing facilities to peace needs; the development of new processes, new products, will bring many problems.

Again, free competition will tax the ingenuity of merchandisers in obtaining distribution, acceptance and preference for the amazing new things which have been given birth through the emergency of war.

Identification of new fibres correlated with valuable trade names, attractive marking, packaging and display will be vital factors in the new era of competition. Here again pre-war materials may not be suitable.

For Identification, Kaumagraph research may have already solved the problem you will face. During this war, from the Kaumagraph laboratory have come many new practical ideas and products for marking war materials. Perhaps your products, new or old, are adaptable to the use of these new Kaumagraph developments. If not, our research department will go to work for you.

While these new things of yours are still in the test tube or in the proving ground of war it may pay you to send for a Kaumagraph Identification Man. Incidentally, he may help you improve or economize your present war material marking.

Identification Headquarters since 1902

KAUMAGRAPH
Wilmington, Delaware

Dry Transfers
Prestomarks
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Complete Line of UNMODIFIED and MODIFIED

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100% LABORATORY CONTROLLED

★ QUALITY ★ UNIFORMITY ★ DEPENDABILITY

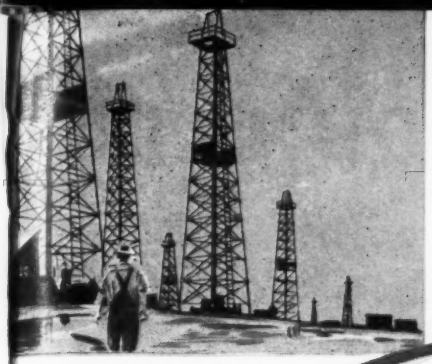
TODAY AS IN WORLD WAR I ★ SERVING THE TEXTILE INDUSTRY

A. E. STALEY MANUFACTURING COMPANY

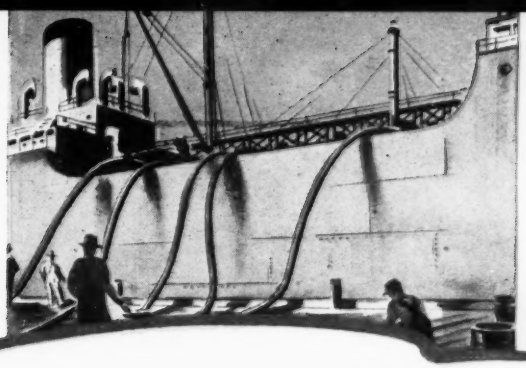
DECATUR ILLINOIS

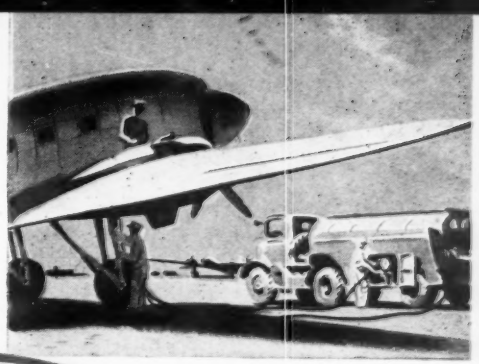
Staley's CORN AND SOY BEAN PRODUCTS

ATLANTA, NEW YORK CITY, SPARTANBURG, CHICAGO, BOSTON



thetic rubber facilitates well lling. MANHATTAN oil-proof tary Hose and Molded Prod-ts, long used in all important lds. Tanker time is saved by of synthetic rubber in Paranite O.P. Oil Hose.



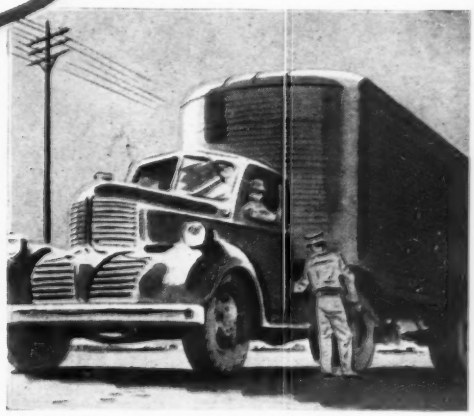


Synthetic rubber's most vital use is in airplanes—for fuel and control hose, in molded diaphragms, and in motor packings, of which MANHATTAN is a principal supplier.

Long before Singapore

Air-operated tools deliver steadier service with longer hose life when hose is lined with G.O.P. synthetic rubber.

Paint spraying speeds delivery of combat equipment. Only synthetic rubber resists action of paint and varnish.



Trucks, buses, tanks and jeeps, all have scores of oil-proof synthetic rubber parts to keep 'em rolling.

MANHATTAN was a Veteran in the use of *Synthetic Rubbers*

For years before the fall of Singapore, the use of several varieties of synthetic rubber was well established in the manufacture of the products illustrated. These synthetic rubbers had special properties not possessed by natural rubber, such as: resistance to oils, sunlight and heat.

Because natural crude rubber was satisfactory, plentiful, and the supply seemed safe (Singapore was considered impregnable), no major (and costly) research and development programs to perfect and supply synthetic rubbers as a substitute had been initiated.

Under today's rising and tremendous program, widely publicized, vast quantities of *all-service* synthetic rubbers will be produced in months to come to replace natural crude rubber. Differences in physical characteristics, not easily recognizable to the layman, but of profound significance to the rubber technician, present highly diversified problems in the art of compounding and using these new *all-service* synthetic rubbers.

The accumulated experience of all manufacturers in the use of special-type synthetic rubbers is proving very valuable in building up the art of substituting these new synthetic types for natural rubber. The full and free interchange of information, fostered by Washington and the Industry, is speeding the results at a pace which should confirm confidence in the ability and talent of the Industry to turn out good, usable, often better, products for War and essential civilian needs.

MANHATTAN expects to further its already substantial contribution to this tremendous program of development through extensive facilities, engineering talent and a long and comprehensive experience in the use of special-type synthetic rubbers in its Paranite —G.O.P. products.

50th YEAR OF RESEARCH

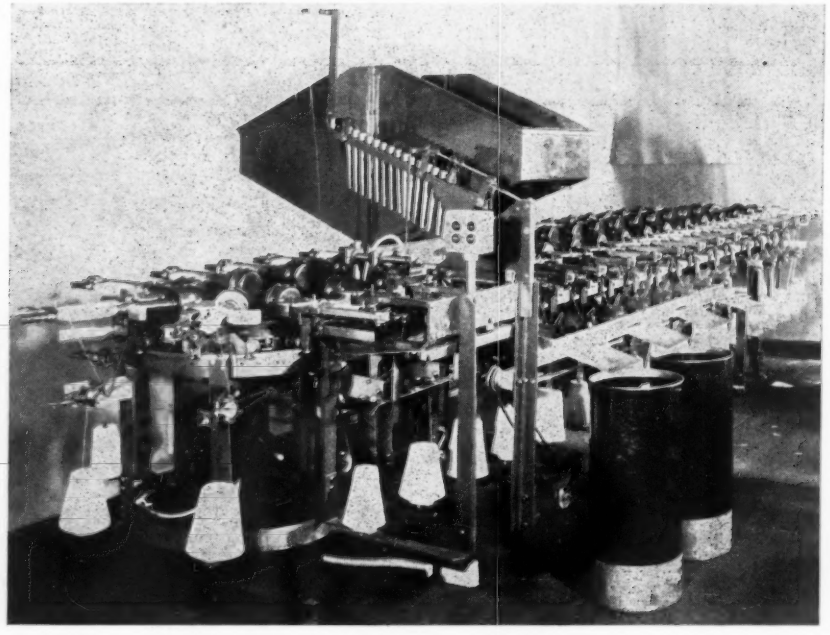
Pioneering in the developments and applications of synthetic rubbers was a natural sequence to the continuous program of research which has been inherent with MANHATTAN throughout the 50 years of its progress. To the long series of contributions to Industry, more will be added.

THROW YOUR SCRAP INTO THE SCRAP!

KEEP AHEAD WITH MANHATTAN

THE MANHATTAN RUBBER MANUFACTURING DIVISION
of RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES PASSAIC, NEW JERSEY

ABBOTT AUTOMATIC QUILLER



BETTER BOBBINS

Overlapping layers.
Firm, even tension.
Uniform diameter.
Bunch is precision formed—not a mere "bunch".
Spiral wound back over full bobbin.

SIMPLICITY

Individual motor drive on each spindle eliminates a multitude of gears, clutches, levers and other mechanical parts.

There is only the needed mechanism on each travelling winding unit to do actual winding. All automatic parts are in a SINGLE stationary head.

Timing sequence of automatic operations is made simple by moving the travelling units by stationary cams.

INVESTMENT COST

Due to elimination of automatic operating parts on each winding unit, the investment cost is low, being about half that of other automatic quillers.

LABOR

Low—the operator does not have to fill a large number of small magazines. Empty bobbins are fed automatically from ONE large hopper.

SPEEDS

3600 to 5000 spindle revolutions per minute.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, L. S. Ligon, Greenville, S. C.

OF COURSE YOU'LL BE USING MAGNESIUM

Mazlo Magnesium Warp Beams, a prewar product, are today speeding knitting mill production.

Here's Experience To Tie To

WE are not a producer of the metal. American Magnesium Corporation is a manufacturer of Magnesium in the forms in which you receive it—castings, forgings, shapes and sheet. We are specialists in the design of Magnesium parts, in their machining, finishing and fabrication.

For over twenty years, American Magnesium Corporation has "stuck to its knitting," helping our customers take full advantage of Magnesium as a high strength weight-saver. Our research has been devoted exclusively to bettering Mazlo products and reducing their costs. Our engineers and plant men have the knowledge and skill that come from these years of doing such jobs.

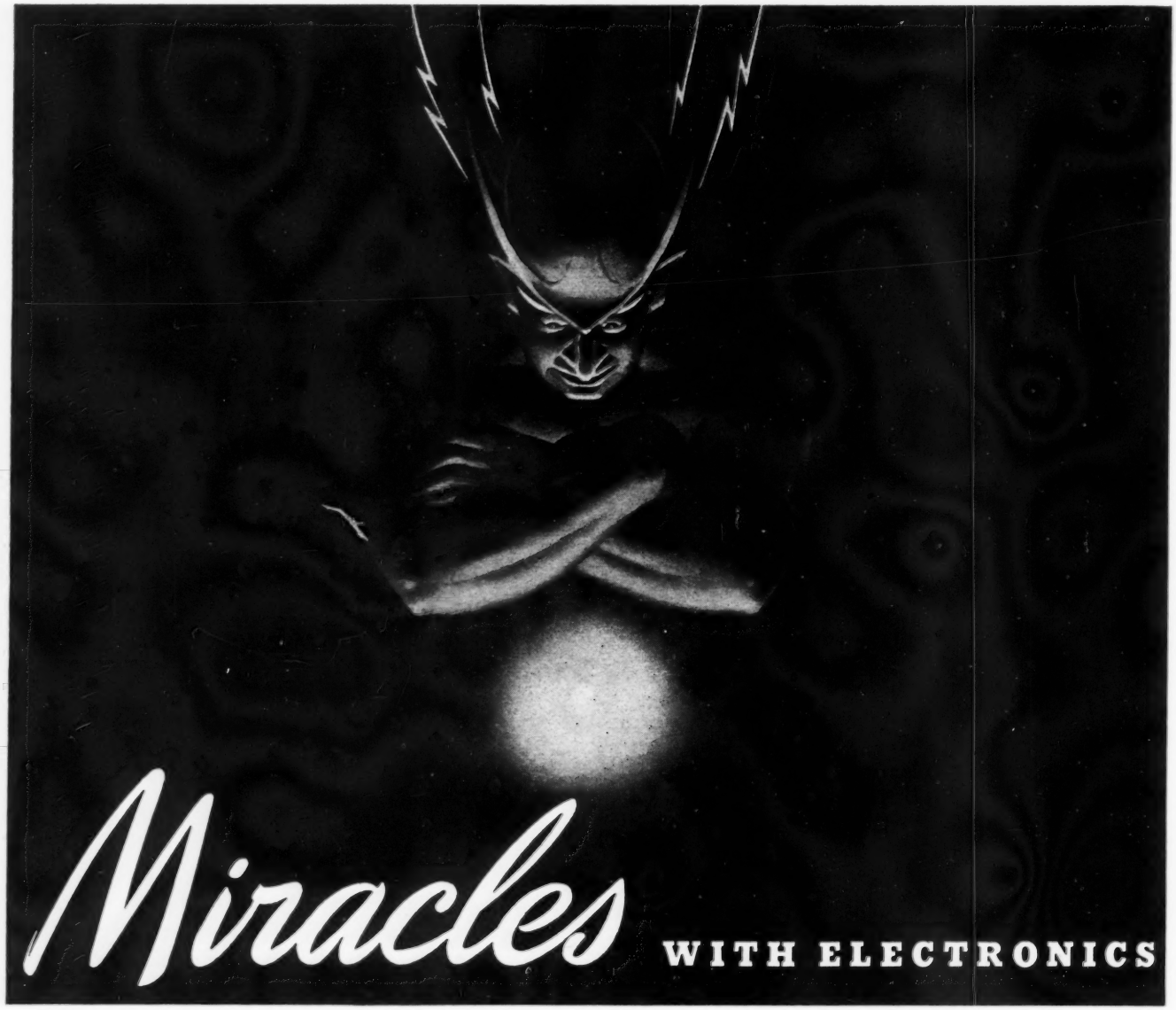
Many companies are working with Magnesium now, who never before had it in their shop. These are war products, of course, but the manufacturers are learning how Magnesium can improve their normal products. After the war, your designers will have to face the competition of such products made lighter, and probably cheaper, by the use of Magnesium.

The twenty years' experience of American Magnesium engineers is available to designers, builders and users of equipment, who are wondering where Magnesium will fit into their postwar picture. Write our sales agent, Aluminum Company of America, 1704 Gulf Building, Pittsburgh, Pennsylvania.

MAGNESIUM MAZLO PRODUCTS

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



ELECTRONICS bids fair to revolutionize our every day living after the war. When Brown and Minneapolis-Honeywell placed experience and manufacturing resources at the call of our government, the result of several years of research in Electronics was immediately applied to instruments — for Testing airplanes in flight — for Controlling production of high octane gasoline — for Treatment of special alloy steels for tanks, guns and armor plate — for Manufacture of synthetic rubber — and for many other purposes entering directly into the war effort.

Extending this peacetime experience to the technique of war, will bear fruit when Peace comes again, in startling new developments in the Electronic control of textile processes — busily engaged in peacetime production.

THE BROWN INSTRUMENT COMPANY, 4492 WAYNE AVENUE, PHILADELPHIA, PENNSYLVANIA
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.
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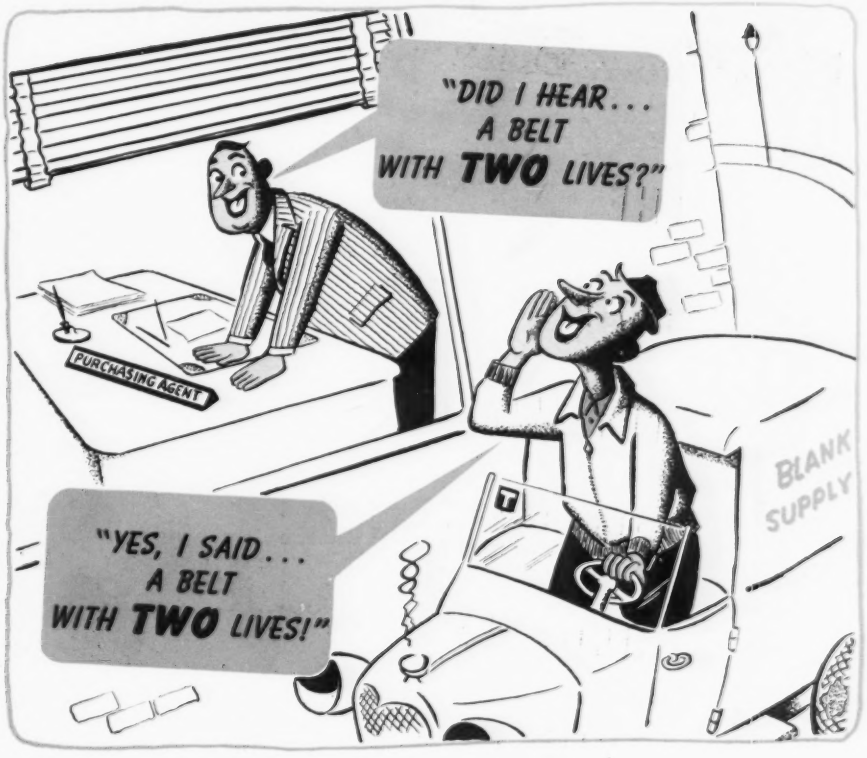
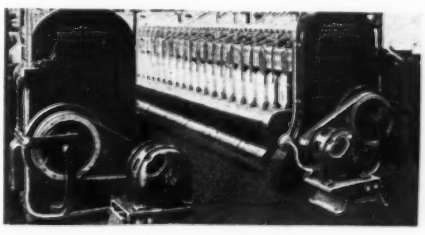


On Pivoted Motor Drives, Research Leather Belting Outlasts Rubber V-Belts 2 to 1

Consider the extra flexing a belt gets on a short-center drive. You'll find Research Leather Belting has the necessary pliability to take that constant punishment with less internal friction than any other belt — rubber or leather.

Consider tension. Research Leather Belting has "built-in" pulley grip; it hugs a greater arc of the pulley, so tension can be reduced, relieving wear on bearings as well as belt.

Any leather belt will outlive a rubber V-belt on a corresponding pivoted motor drive (see "Fifty Reports on Mechanical Power Transmission from Motor Drive to Industry" — Robert Drake). And *Research* Leather Belting gives you the best in leather — that's why more pulleys are turned by Research than by any other brand.



Research Leather Belting on Pivoted Motor Base Drive ("Production Drive")

GRATON & KNIGHT

GRATON & KNIGHT CO., Worcester, Mass.

Only leather belting manufacturer with complete nation-wide service facilities. Branches in Chicago, Cleveland, Dallas, Detroit, Kansas City, Minneapolis, New York, Philadelphia, San Francisco. See adjoining column for distributors (also listed in THOMAS' REGISTER.)

THE TEAM WITH THE MOST RESERVES USUALLY WINS!

Likewise mills that use Ashworth Card Clothing have good production records, for Ashworth has—

3 **FACTORIES** which assure an uninterrupted supply of card clothing. If one factory is temporarily disabled, another factory can "pinch-hit" for it.

6 **REPAIR SHOPS** which facilitate convenient and prompt repairs and which again insure you against emergencies.

7 **DISTRIBUTING POINTS** which speed up deliveries of those items we have in stock and facilitate personal contacts when the mill has card clothing problems.

Mills also find Ashworth Products dependable, for we are "Pioneers in Card Clothing".

ASHWORTH BROS., INC.

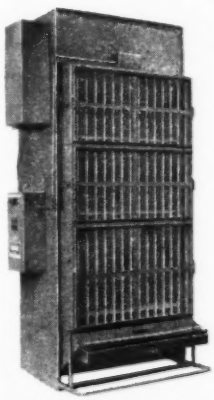
Woolen Div., AMERICAN CARD CLOTHING CO.

Fall River*†‡, Worcester*‡, Philadelphia*†‡, Charlotte†‡, Greenville†‡, Atlanta†‡, Dallas†‡ (Textile Supply Co.).

**Factory.* *†Repair Shop.* *‡Distributing Point.*

ASHWORTH PIONEERS IN CARD CLOTHING

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed.



ELECTRO-MATIC AUTOMATIC FILTER

PICK UP *that* PASS!

Dust, Saboteur of production—must be kept out of every Textile plant if maximum efficiency and speed in production are to be achieved.

In the Textile Industry, AAF filters are preventing smudging, streaking and discoloration of products caused by dust, smoke and soot. Write for complete information on the Electro-Matic electric dust precipitator which collects the finest air-borne particles electrically. Your air conditioning consultants will be glad to investigate the performance records of AAF equipment now in Textile mill service. Write for descriptive bulletins.

AMERICAN AAF AIR FILTERS

AMERICAN AIR FILTER COMPANY, INC., 275 CENTRAL AVE, LOUISVILLE, KY.

INCORPORATED

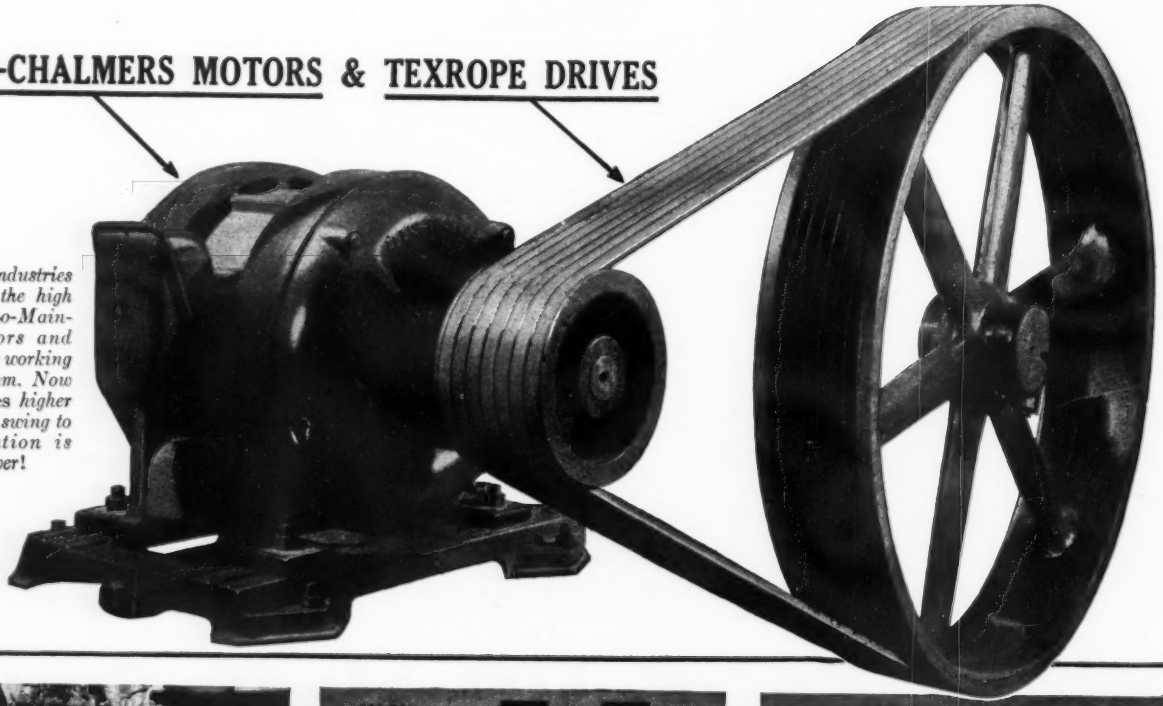
IN CANADA, DARLING BROTHERS, LIMITED, MONTREAL, P. Q.

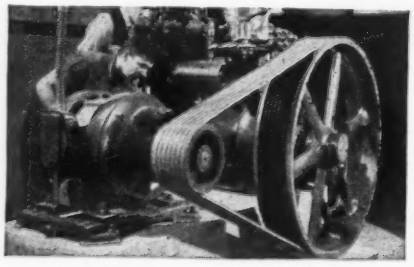
IN PEACE AND WAR--

Give this an "E" for

ALLIS-CHALMERS MOTORS & TEXROPE DRIVES

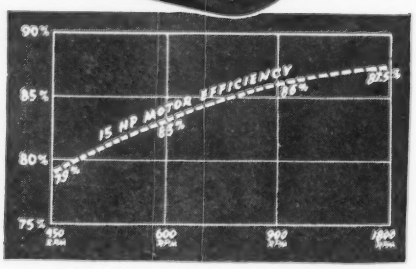
Thousands of industries already know the high efficiency of Lo-Maintenance Motors and Texrope Drives working together as a team. Now that war forces higher efficiencies, the swing to this combination is stronger than ever!





1 In most applications, an 1800 rpm motor with Texrope Drive will ably do the job of a lower-speed, direct-connected motor —at lower cost in money *and materials!*

2 When you buy an 1800 rpm instead of 450 rpm 15 hp squirrel-cage motor, for example, 600 lb are saved. And *you* save well over $200 — with drive figured in!



3 Note that efficiency rises from 79% for the 450 rpm motor to 87.5% for the 1800 rpm motor. The 1800 rpm motor saves you over 30 kw/24 hr. day.

WE WORK FOR VICTORY — WE PLAN FOR PEACE

ALLIS-

Combination Efficiency!

☛ Using high-speed motors with Allis-Chalmers Texrope Drives and single-speed motors with Allis-Chalmers Vari-Pitch Sheaves and Speed Changers has always been good practice. Today it's a vital practice!

☛ Such combinations give sharply higher efficiencies —at lower cost in man-hours, money and materials!

☛ As America's only builder of both motors and V-belt drives, Allis-Chalmers has long studied and advocated their use in proper combination.

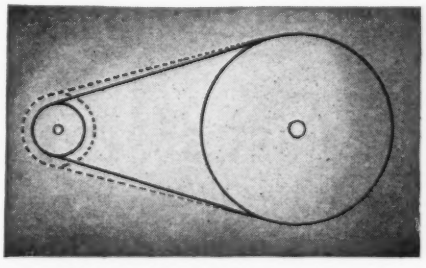
☛ Today you benefit from Allis-Chalmers pioneering when you ask for—and get—the right combination of Lo-Maintenance Motor and Texrope Drive!

BUILDING the largest variety of capital goods in the world, Allis-Chalmers know-how is in many ways unique — and is *completely* at the service of American war industry.

Allis-Chalmers, builder of Lo-Maintenance Motors, *originated* the multiple V-belt drive and Vari-Pitch Sheaves.

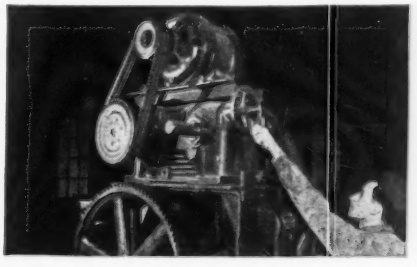
Today there's every patriotic *and business* reason for using material-saving, money-saving single speed and high-speed motors — made flexible and more efficient by Texrope Drives.

Don't hesitate to call on Allis-Chalmers district offices for engineering data or recommendations — or write direct to ALLIS-CHALMERS MFG. CO., MILWAUKEE, WISCONSIN. A 1581



4 Infrequently needed speed changes can be had by changing from one size motor sheave to another. Juggling *complete* drives, range is 1:1 to 7:1.

5 With the Allis-Chalmers Vari-Pitch Sheave, you can increase or decrease speed by adjusting sheave diameter . . . obtaining an *unbroken* series of speeds!



6 Allis-Chalmers Vari-Pitch Speed Changer gives you infinite changes at the turn of a wheel — within 3.75 to 1. It's compact, flexible, *efficient!*

CHALMERS

LO-MAINTENANCE MOTORS
TEXROPE DRIVES

Reg. U. S. Pat. Off.

UNBRAKO

Self-Locking **HOLLOW SET SCREWS** *with the KNURLED POINTS*

Where ordinary set screws fail to hold, "Unbrako" Self-Lockers stay put for keeps. Their knurled points dig in when the screws are tightened as usual so vibration can't dislodge them — yet they can be backed out with a wrench and used again and again. Apply this safeguard against breakdowns in your mill — today! "Unbrako" Self-Lockers come in sizes from No. 4 to 1½" diameter; and deliveries are better than average. Write for Catalog giving complete information.

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 582

— BRANCHES —

BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

KNURLING OF SOCKET SCREWS ORIGINATED WITH "UNBRAKO" YEARS AGO

FOR PIGMENT PRINTING
and PIGMENT DYEING
in WATER SOLUTION..

SHO-PAL

THICKENER and BINDER

WASH FAST when the printed or dyed cloth is dried . . . eliminates curing.

DRY PRODUCT . . . easy to handle . . . saves shipping and storage space.

NO SOLVENT . . . does not damage rubber blankets.

ANY OTHER TYPES of COLOR can be used because the paste is made up with water.

WIDE PIGMENT CHOICE . . . you can select your pigment colors from several sources of supply.

NO STRATEGIC MATERIAL or homogenizing equipment required.

High Quality Results at Low Cost.

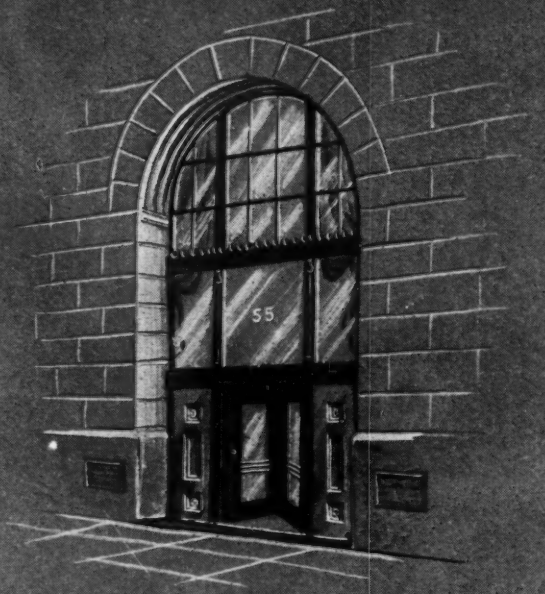
Prove these values for yourself.
Order a trial lot of Sho-Pal today.

STEIN, HALL MFG., CO. ★ STEIN, HALL & CO., INC. ★ STEIN, HALL, LTD.

2841 South Ashland Ave., Chicago 285 Madison Ave., New York City 250 Van Horne St., Toronto, Can.
1011 Johnston Building, Charlotte, N. C.

LABORATORIES AT: NEW YORK · CHICAGO · CHARLOTTE · PROVIDENCE · LONG ISLAND CITY, N. Y.

77 YEARS OF SERVICE SUPPLYING HIGH QUALITY STARCHES, GUMS AND DEXTRINES FOR SIZING, PRINTING AND FINISHING.



TEXTILE BANKING COMPANY

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

A DIFFERENT WAR? YES!

. . . and a different war presents new and difficult problems.

Uncle Sam's fighting men in the jungle, in the Arctic, on the desert - - all over the world - - are demanding fabrics finished to meet the extreme conditions of this *new* kind of war. ● Arkansas' vast peacetime experience is now solving wartime problems . . producing for textile processing and finishing plants products that meet exacting government specifications.

FRONT LINE PRODUCTS

FUNGICIDE G For mildewproofing all types of cotton cloth used in sleeping bags, webbing, tentage, mosquito netting, etc.

ARKO FIRE RETARDANT For flame-proofing uniform cloth, tentage, felts, etc.

CULOFIX L* For preventing color-bleed in water of direct dyed cotton.

AQUAROL* Produces a water-repellent finish on uniform cloth, overcoatings, and other military fabrics . . used in a single bath treatment with Fungicide G to impart water-repellency and mildew resistance . . used in a single bath treatment with Arko Fire Retardant to produce water-repellency and fire-resistance.

*REG. U.S. PAT. OFF.

ARKANSAS CO. INC.

NEWARK • NEW JERSEY

HOW TO SALVAGE WASTE LIGHT WITH PAINT

DU PONT
COLOR SELECTOR
For Three Dimensional Seeing
For better working conditions through improved visibility and increased light utilization.
TO SELECT INTERIOR COLOR COMBINATIONS
Pull the slide to view the various combinations. Remove the slide, turn it over, and replace it to view additional color schemes.
Light reflection factors, and product identification appear adjacent and to the right of the color chips.
E. I. DU PONT DE NEMOURS & CO. (INC.)
Finishes Division, Wilmington, Delaware

Du Pont Field Engineers use scientific color selector to show you how to increase lighting efficiency.

Du Pont Field Engineers are equipped to come into your plant and show you how to get more light from your present lighting equipment.

How? Simply by salvaging waste light *with paint*.

The textile industry has long known that fresh, light-colored walls and ceilings speed production because they *reflect* light. Workers see better and work faster. Du Pont Maintenance Paints are specially formulated to produce a high reflecting surface. But now comes a further aid—

"Three Dimensional Seeing"—a new, unique system of painting machinery for quicker, easier seeing. "Three Dimensional Seeing" is a scientific method of painting machines in a light-reflecting color . . . spot-lighting the working area on the machines in a light, *contrasting* color.

To work out scientifically correct combinations of colors for ceilings, walls, floors, and machines, Du Pont Field Engineers use the "Color Selector" pictured above.

Write today for further information. A Du Pont Field Engineer will be glad to put the Du Pont "Color Selector" for "Three Dimensional Seeing" to work for *you* . . . show you how you can use paint to boost lighting and speed production in your plant. E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.

DU PONT REG. U.S. PAT. OFF. **PAINTS**

FOR FACTORY MAINTENANCE AND MODERNIZATION

THE MORTON SYSTEM DYEING MACHINES.

War Production is calling for peak efficiency in every section of your mill. Keep your dye house at the highest point of efficiency turning out quality goods at top speed and lowest cost.

All replacements and repair parts carried in stock on all machines ready for immediate shipment.

THE MORTON SYSTEM AUTOMATIC VALVE REVERSE MECHANISM.

This Mechanism automatically reverses the flow of the dye liquor on any time cycle desired, eliminating the error of the human element.

Arranged to handle one machine, or a number of machines in the same dye house, with one Master Control.

Can be installed on any machine, requiring reversal flow.

THE MORTON SYSTEM END BEARING FOUR WAY VALVES.

The End Bearings prevent any rocking or sticking of the valve plug in the chamber, prevent wear, insure longer life for the valve, render the valve easy to operate, and these valves can be reseated and made as good as new a number of times.

This valve can be installed on any machine requiring reversal flow.

THE MORTON SYSTEM QUICK OPENING HANDLE GATE VALVES.

The Morton Quick Opening Valves, open completely, close securely preventing steam or water waste under pressure.

THE MORTON SYSTEM HEAVY DUTY PUMPS.

Especially designed for dyeing machines. Equally as efficient when used as water pumps.

Equipped with non-clogging impellers.

Equipped with special heavy duty ball bearings.

The Housings on these pumps are twice the thickness of standard water pumps, thus fitting them for the demands of dye house usage.

These pumps are designed to give the highest efficiency in operation with the least H.P.

THE MORTON AUTOMATIC BALL BEARING LOGGER HEADS.

These Logger Heads are so designed that when excessive strain is thrown against the head, the head automatically unlocks, at the locking plates, relieves the strain and prevents a break down. Will save money every time it releases, by preventing breakage, thus saving labor. No stripped teeth in rack, no broken picker housing.

MORTON MACHINE WORKS

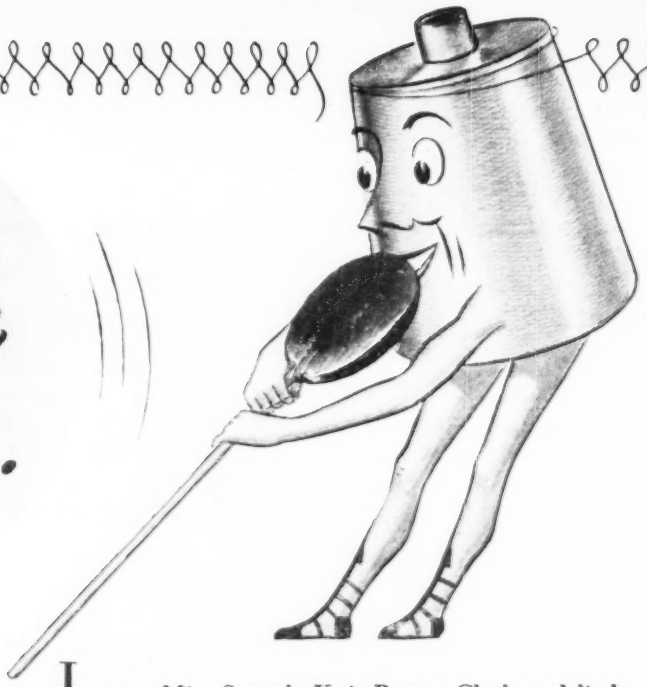
COLUMBUS, GA.

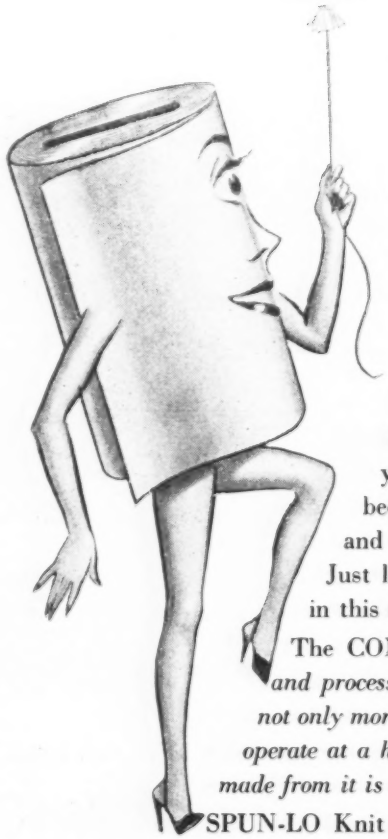
—Manufacturers of—

MORTON SYSTEM DYEING MACHINES—To dye from 1 to 1500 lbs. raw stock cotton or wool.

MORTON SYSTEM COMBINATION BEAM & PACKAGE DYEING MACHINES—To dye from 1 to 1500 lbs.

Babes from the Wood...





LITTLE Miss Spun-lo Knit Rayon Cloth and little Master "Continuous Process" Rayon Yarn are truly babes—and truly from the "wood" (or the cellulose from wood pulp, to be exact).

Rayon, as an industry, is barely 50 years of age. Just compare that with Rayon's sister textile industries—cotton, wool, linen, silk. They go back to the dawn of history, when man first learned to plait a fiber and fashion from it a cloth to wear.

Rayon has had but a few years for improvement—and you know to what good advantage this brief span has been put. New yarns, new cloths, new weaves, new fabrics—all made possible because Rayon is man-made and man-controlled from start to finish, and not subject to the vicissitudes of Nature as are natural fibers. Just look at what we of Industrial achieved in product improvement in this short space of time:

The CONTINUOUS PROCESS *for yarn production—a method that spins and processes yarn continuously, as a single thread. The resultant product is not only more uniform, but is so free of knots and broken filaments, that mills can operate at a higher rate of efficiency with lower production costs. And the cloth made from it is more uniform and dyes more evenly.*

SPUN-LO Knit Cloth—*created a standard for knit underwear fabrics where none had existed before. Produced from basic raw material to finished fabric under one roof, it is controlled every step of the way—it is the same today as yesterday or tomorrow. Dependable quality for manufacturer, retailer and consumer.*

War time has greatly stimulated the uses of rayon in dozens of fields. Watch Rayon convert these findings to peace time needs, and add others from the bottomless well of scientific achievement.

Industrial
RAYON
CORPORATION
★
Cleveland, Ohio
New York Office: 500 Fifth Ave.

BEFORE THE TAKE-OFF *SINGER* IS ON THE JOB

Before one of the giant Curtiss "Commando" transports can take off, many things must be done. Men and women work day and night with many different tools and materials.

Singer sewing machines play a vital part in building planes, and clothing and equipping men for all branches of the armed forces.

Singer sewing machines formerly available for making hundreds of different things for civilian use are now sewing parachutes, uniforms, tents, gun covers, shoes, powder bags, fur lined helmets and many, many other articles needed to bring speedy victory to US. And if, like many others, you are having trouble getting Singer sewing machines, remember that Uncle Sam is our first customer, and his needs must be satisfied first.

SINGER

SEWING MACHINE COMPANY
Manufacturing Trade Department
149 Broadway, New York, N. Y.
Branches in principal cities throughout the world

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All rights reserved for all countries

(Photo courtesy of Curtiss-Wright Corp.)

"Reporting for duty, sir!"

NEW MODINAL* DN

speeds wartime production

SPEED UP and improve your wartime production! New Modinal DN can help you attain greater efficiency and meet increased demands. It's surprisingly versatile:

In Scouring Woolens and Worsteds... New Modinal DN reduces rinsing time and temperatures, eliminates blotchy dyeing and improves penetration. Results are uniform. You save time, steam, labor and water.

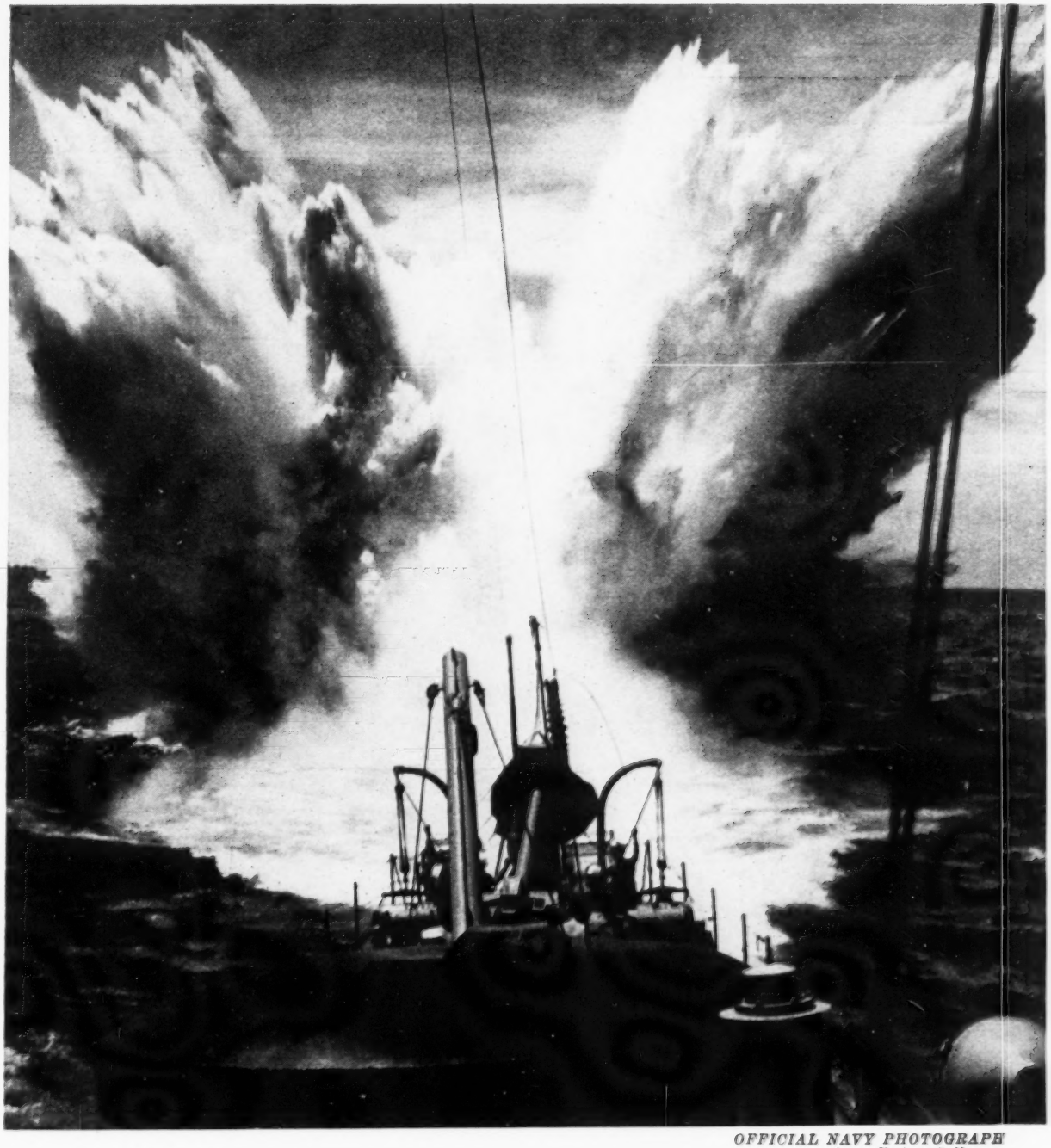
In Soaping Vat-dyed Cottons: Modinal DN obtains full shade development—often improves light fastness. Military colors—the khaki, olive, and green shades—are improved.

In Viscose and Acetate Rayons: New Modinal DN for scour and dye bath improves penetration in rayons. Results are more uniform, finishing better. There is no soapy odor.

Get help from our experienced men on technical production problems. Gardinol Corp., Gen. Offices, Wilmington, Del. Sales Agents: Procter & Gamble, Cincinnati, O.—E. I. du Pont de Nemours & Co. (Inc.), Wilmington.

*"Modinal" is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulfates.

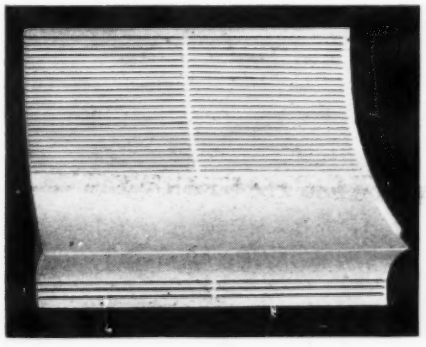
MODINAL DN Fatty Alcohol Sulfates



OFFICIAL NAVY PHOTOGRAPH
from Ewing Galloway

BEYOND REPAIR!

A speedy little U. S. Navy P. C. boat launches its deadly attack . . . another Axis U-boat is beyond repair. Anything you can do to prolong the life of your present equipment is directly aiding our Navy to send enemy subs to Davy Jones' locker. Don't wait until your spinning frames, card frames and cylinder rolls are beyond repair. Use Jenkins' prompt rebuilding service. You not only save valuable time and money, but more important right now, you are helping to conserve the metal that will hasten the day of Victory.

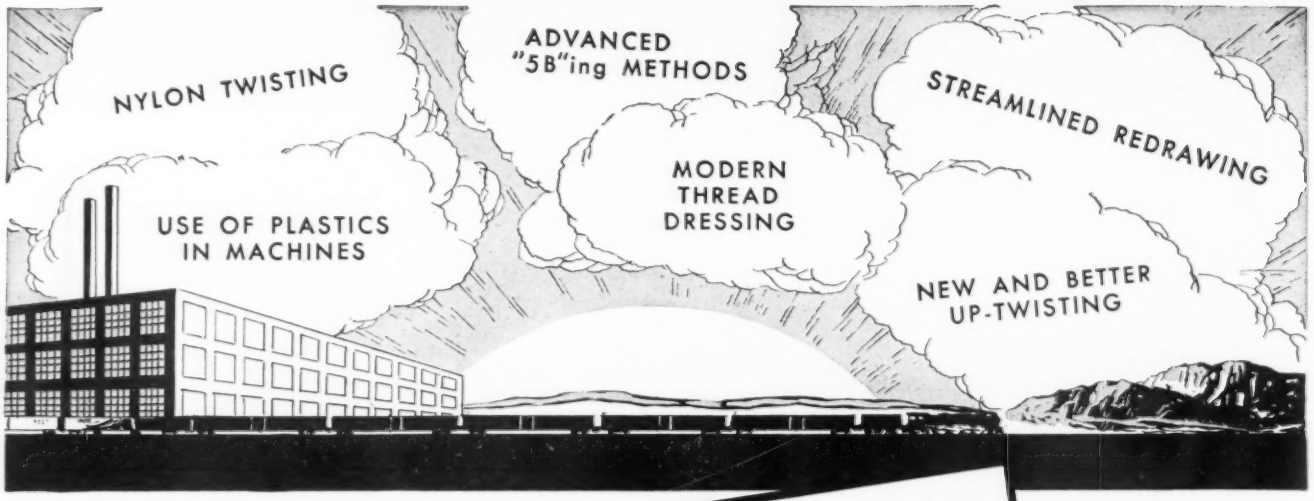


JENKINS METAL SHOP

GASTONIA, N. C.

Manufacturers of

Comber Tins • Aspirators • Lap Aprons • Sliver Pans



A BRIGHTER TEXTILE TOMORROW will come from ATWOOD WAR PRODUCTION TODAY

ARMY E NAVY

AWARDED ATWOOD

Never in our long history have we had under way so many developments of genuine interest and significance for the future of the industry—developments destined to have far-reaching effect on future textile production efficiency and economy.

Include in your post-war calculations this certainty — that ATWOOD machinery, ATWOOD engineering and service resources will be ready to help you solve the new problems—meet the new demands. It is not too early to get in touch with ATWOOD and be informed as to these developments.

THE ATWOOD MACHINE COMPANY

STONINGTON CONN., U. S. A.

SALES OFFICES: STONINGTON · CHARLOTTE · LOS ANGELES · MANCHESTER, ENGLAND · BUENOS AIRES
SAO PAULO · MEXICO CITY · MELBOURNE · SYDNEY · BOMBAY · MADRAS

A BOND OF INTEREST IS A STRONG TIE

Few BONDS hold people together so firmly as a common interest. It may be fishing or some other sport, books or the theatre—it is hard to break such a BOND. It is like the BOND between two ingredients with an affinity for each other. Such a BOND is that between the fabric and pigment in modern pigment-printing and pigment-dyeing with Aridye* Textile Colors. It is in sharp contrast with the kind of attachment obtained by a "glue."

How to Be Sure of this BOND

The firm BOND between the pigment and the fiber is an outstanding accomplishment of modern pigment-printing and pigment-dyeing. Users of Aridye Textile Coloring Materials know that this firm BOND results only when:

1. *Technically correct pigmented colors are used*
2. *The colors are properly applied to the fibers of the cloth*
3. *The colored fabric is then adequately cured.*

If these conditions are met, the resulting colored fabric, with the pigment firmly BONDED to the fabric fibers, will meet the standards for high quality merchandise. The selection of the right pigment, the exact form of the pigment, the method of dispersing, the tenacity of the binder and the proper curing of the fabric have all been determined by research in the Laboratories of Aridye Corporation and proven by actual production experience.

Aridye colors for pigment-dyeing are emulsions. The pigments are dispersed in a solution of synthetic resins into which water is emulsified. This emulsion remains stable; consequently there is no exhaustion of the bath, as all components are taken up together by the fabric in the same proportions.

Meet Industry's High Standards

Aridye colors, properly applied and adequately cured, meet or exceed the high standards of the textile industry for wash-fastness, light-fastness and scrub tests. Certain Aridye colors for pigment-printing or pigment-dyeing can be selected which will withstand *300 hours* in the fadeometer without noticeable letdown in shade. Comparative tests, covering Mildew Effectiveness, Resistance to Abrasion, Chlorine Retention, Air Porosity and Presence of Primary Irritating Substance, have been made by the United States Testing Company, Incorporated. Full copies of these reports will be sent on request.

Aridye Colors Are Available Now

Aridye pigmented emulsions are available *now*. For additional information about this method of printing and dyeing with fast pigments, write to Aridye Corporation, a Subsidiary of Interchemical Corporation, Fair Lawn, New Jersey.

Reg. U. S. Pat. Off.

NOT ONE, NOT TWO, BUT

3

CONDITIONS GOVERN THE BOND BETWEEN FABRIC FIBER AND PIGMENT

1 Technically correct pigmented colors
2 Proper application to the fibers
3 Adequate curing of the fabric

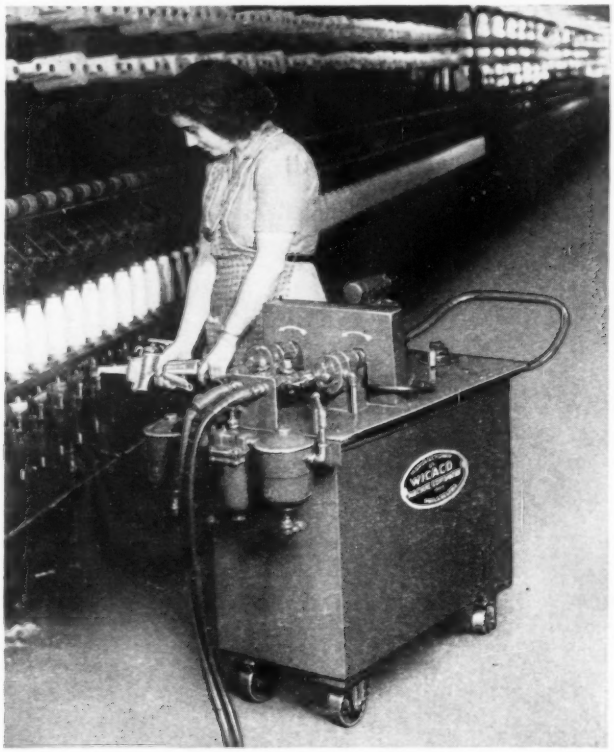
NO SHORTCUT PROCEDURE CAN PRODUCE A SATISFACTORY BOND

Aridye

TEXTILE COLORING MATERIALS

ARIDYE CORPORATION • A Subsidiary of Interchemical Corporation • FAIR LAWN, NEW JERSEY • ROCK HILL, SOUTH CAROLINA • PROVIDENCE, RHODE ISLAND

Showing standard gun and nozzle for flushing bolsters.



*Photograph taken in leading New England Textile Mill.**

New gun to take standard tubes or with attachment shown for snout type oil wells

SAVE
MONEY—OIL—LABOR—YARN
with the
NEW WICACO SPINDLE OILER

(Patented)

Leading Textile Plants Make These Claims

1—50% saving on Labor.
2—50% saving on Oil.
3—Labor saving $1000 per year per machine. (Many plants have two and three machines).
4—10% Power saving.
5—No yarn spoilage from overfilled bolsters.
6—Easily operated by female help.
7—No oil soaked tapes.
8—Cooler running spindles.
9—No oil drip on floor.
10—Refiltered oil has a greater affinity to cling to metal, offering better lubrication.

All the above claims taken from users' letters.

**Name furnished on request.*

Write Today for Complete Details and Price.

THE WICACO MACHINE CORPORATION

Southern Representative:
M. Bradford Hodges
161 Spring St., N.W.
Atlanta, Ga.

75TH ANNIVERSARY
Wayne Junction
Philadelphia, Pa.

New England Representative:
American Supply Co.
No. 78 Fountain St.
Providence, R. I.

Non-toxic mildew proofing becomes a reality

In the tropical rains and steaming heat of the South Pacific, the uniforms and equipment of America's fighting men require two protective finishes — water repellency and anti-mildew.

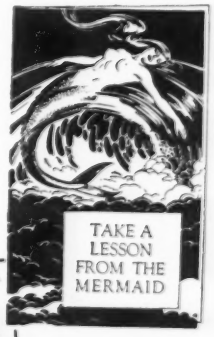
At last you get this double protection in a non-toxic one-bath treatment — Fen-Aseptic. Safe for fabrics and users.

Fen-Aseptic renders fabrics immune to the ravages of mildew . . . keeps men dry.

Fen-Aseptic meets government specifications for ducks and twills for shelter tents, sleeping bags, barracks bags and a wide range of other fabrics. Easily applied on quetsch, padder, jig, beck, starch mangle or continuous process machine, followed by drying at an elevated temperature.

When fabrics require water repellency alone, you can depend on the proved effectiveness of Fen Water Repellent. Used on thousands of yards of fabric now in service on every fighting front.

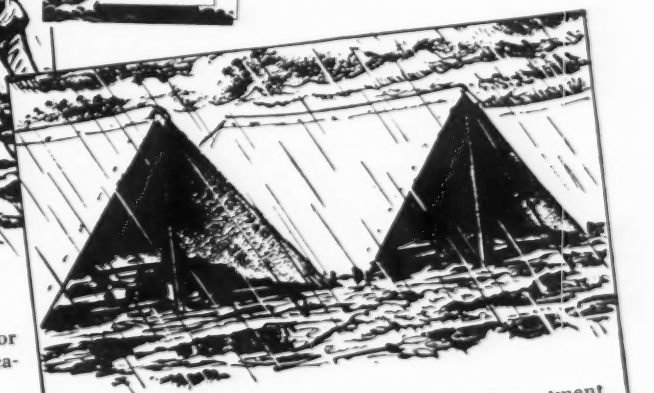
Fen is available three ways — Fen Water Repellent, Fen Anti-Mildew and Fen-Aseptic, a combination of both. Write us.



Don't decide on any water repellent until you read what an independent testing laboratory found out about the remarkable results achieved with FEN. "Take a Lesson from the Mermaid" is a folder summarizing these results. Write for a copy.

FEN WATER REPELLENT is a one-bath treatment for stain and water repellency fully meeting government specifications for a wide variety of fabrics including:

- Canvas for leggings
- Webbings for cartridge belts
- Wool overcoating 32-oz.
- Twills for tents, mineral khaki
- Uniform twill
- Rayon cordage and parachutes
- Wind Resistant twill or poplin
- Rayon and cotton twill
- Cotton duck for case covers
- Duck or twill for bedding
- Wool covert dark blue 12 oz.
- Cotton or acetate sleeping bags
- Mackinaw fabric
- Lightweight khaki cloth
- Uniform twill
- Herringbone twill

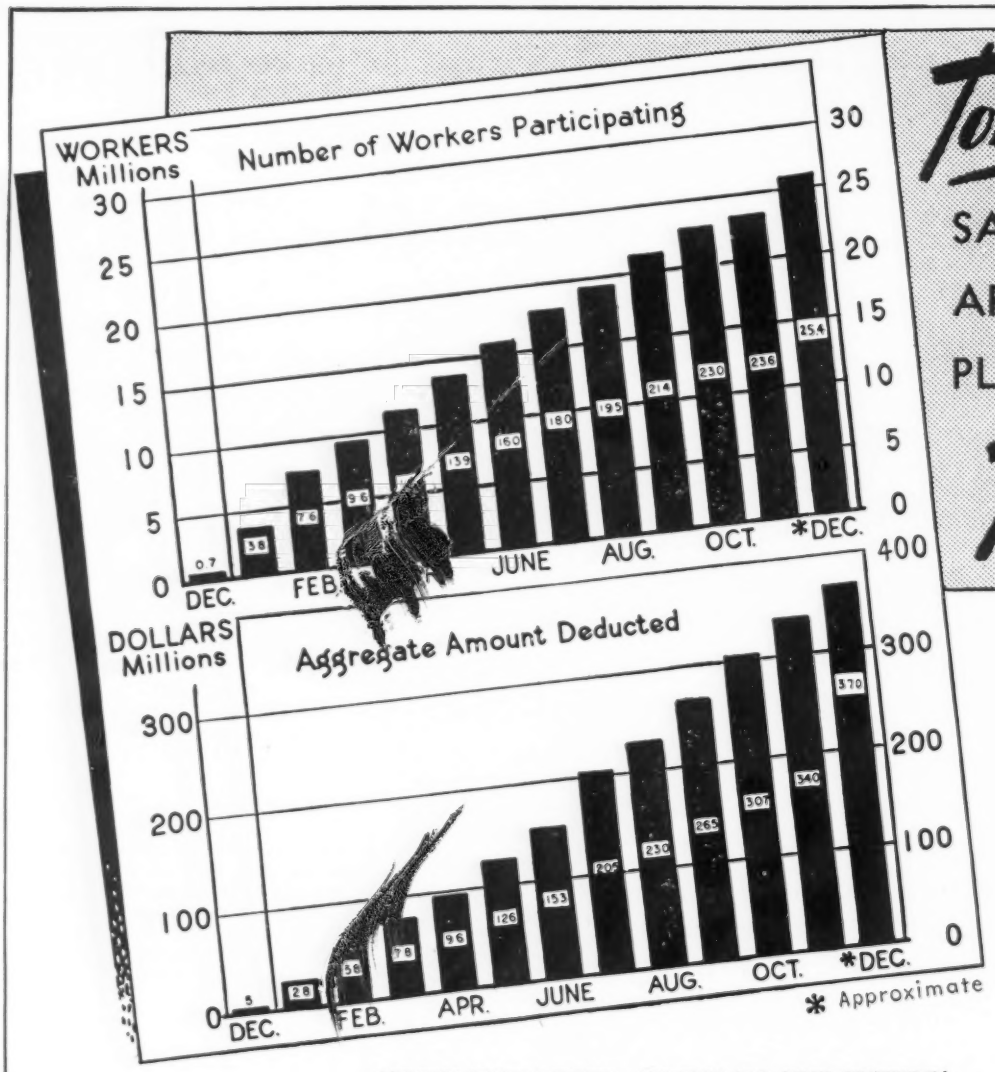


FEN-ASEPTIC is a non-toxic one-bath treatment combining water repellency and mildew-proofing. Now being used for fabrics such as:

- Ducks and twills for shelter tents
- Barracks bags
- Uniform twill
- Cotton cloth
- Cotton sleeping bags
- Duck netting and hammocks
- Mosquito bars

FEN

Amalgamated Chemical Corp., Philadelphia, Pa. Southern Representative: Robt. A. Bruce, P. O. Box 35, Greensboro, N. C. : : Makers of a complete line of Textile Finishes, Dyeing Agents, Penetrants and Softeners



Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

EVERYBODY EVERY PAYDAY AT LEAST 10%

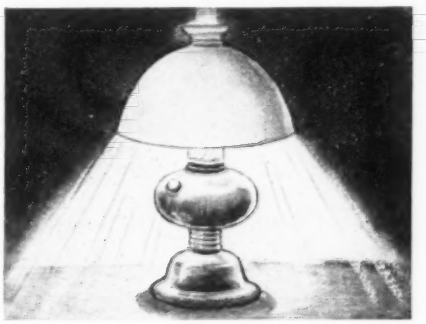
Save with War Savings Bonds

This space is a contribution to America's all-out war effort by

COTTON

RAYON REPORTS

Presented monthly by American Viscose Corporation, New York, N. Y. APRIL, 1943



BETTER LIGHT! Perhaps you thought that the kerosene lamp was a thing of the past. But such is not the case—not by a long shot. Such lamps still provide the sole source of nighttime illumination in thousands of homes without electricity. For over a decade, continuous filament rayon yarn has been used successfully in the incandescent mantles for these lamps, used in conjunction with ramie and other natural fibers. Recently the shortage of the latter fibers led to investigation of possible replacement materials by one of the country's largest incandescent mantle manufacturers. "Avisco" spun yarns proved ideal. The characteristics of these yarns, it was determined, improved the ceramic structure of incandescent mantles and enabled them to throw more even light. Several thousand pounds of "Avisco" yarns are now being delivered monthly to mantle manufacturers for this use.

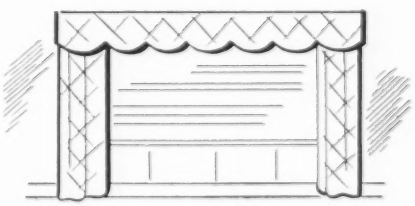
STANDARDIZED NAMES—The British Rayon Council recently recommended a unification of terminology in the rayon trade, and suggests the following terms:

STANDARD TERM	DEFINITION
Rayon Yarn	Continuous filament rayon yarn
Rayon Fabrics	Fabrics made from rayon yarn
Rayon Waste	Waste from rayon yarn
Rayon Staple	Rayon staple fiber
Spun Rayon Yarn	Yarn spun from rayon staple
Spun Rayon Fabrics	Fabrics made from spun rayon yarn
Spun Rayon Waste	Waste from rayon staple and from spun rayon yarn

We think that the adoption of such terms would help to avoid confusion.

LOOK OUT BELOW—American fighters have a useful ally—and America's enemies a formidable foe—in the fragmentation bomb. These bombs are anti-personnel bombs dropped at low altitudes for sure results. In order to give plane pilots time enough to get away from the exploding bombs, rayon parachutes are used. Rayon is of value here because of its great strength. This characteristic makes rayon valuable for similar uses in cargo parachutes, and in tow targets on which fledgling aerial machine gunners practice hitting Japanazis.

MORE NEW USES—Constant laboratory research and experimental work on rayon staple—much of it conducted long before the war—is proving priceless today. This work has made it possible for rayon staple to be used with complete satisfaction in many products formerly made with natural fibers, of which there are now shortages because of the war. In some cases, rayon has proved superior to natural fibers formerly used. Some of the most recently developed uses include: mittens and gloves, shoe fabrics, babies' diapers, interlinings for men's suits and Army officers' uniforms, and sweaters that formerly were made from fine cashmere and angora wools.



"CROWN"* TESTED CURTAINS—Having successfully met the "Crown" Tested Plan requirements, Queen Valley Fabrics, Inc., manufacturer of "Queentex" curtains, has been licensed as a manufacturer and finisher of "Crown" Tested rayon window curtains under the "Crown" Tested Plan of the Corporation. This company is one of the country's largest manufacturers of rayon window curtains and is unique in that it possesses facilities for handling the complete processes of manufacturing from yarn to finished products. Curtain fabrics are produced on the company's own looms and are then finished and tailored in its own plants. This means that the quality of their products can be controlled at every step of the manufacturing process.

RAYON IN WORK CLOTHES—The recent WPB order M-207, which established tighter restrictions on fabrics for use in women's work clothing, has been subject to some misinterpretation, particularly in connection with its reference to the use of rayon and rayon mixture fabrics for such clothing. The order did not prohibit the use of rayon fabrics in women's work clothing, as has been reported in some quarters. What it did state was that the A-2 priority rating formerly applicable to rayon fabrics for use in women's work clothing could no longer be used. Rayon and rayon mixture fabrics can still be used in work clothing and are being used in important quantities in this field. Manufacturers of such garments, however, can no longer buy such rayon fabrics as priority items.

Daily News Record, in explaining the order, wrote: "It is explained that the fabrics listed from the order by the amendment, including rayons and rayon mixtures, are removed, not because they are considered unsuitable for women's work clothes, but because they are needed for other essential uses."

*Reg. U. S. Pat. Off.

Copr. 1943—American Viscose Corp.

4-PLY SERVICE...

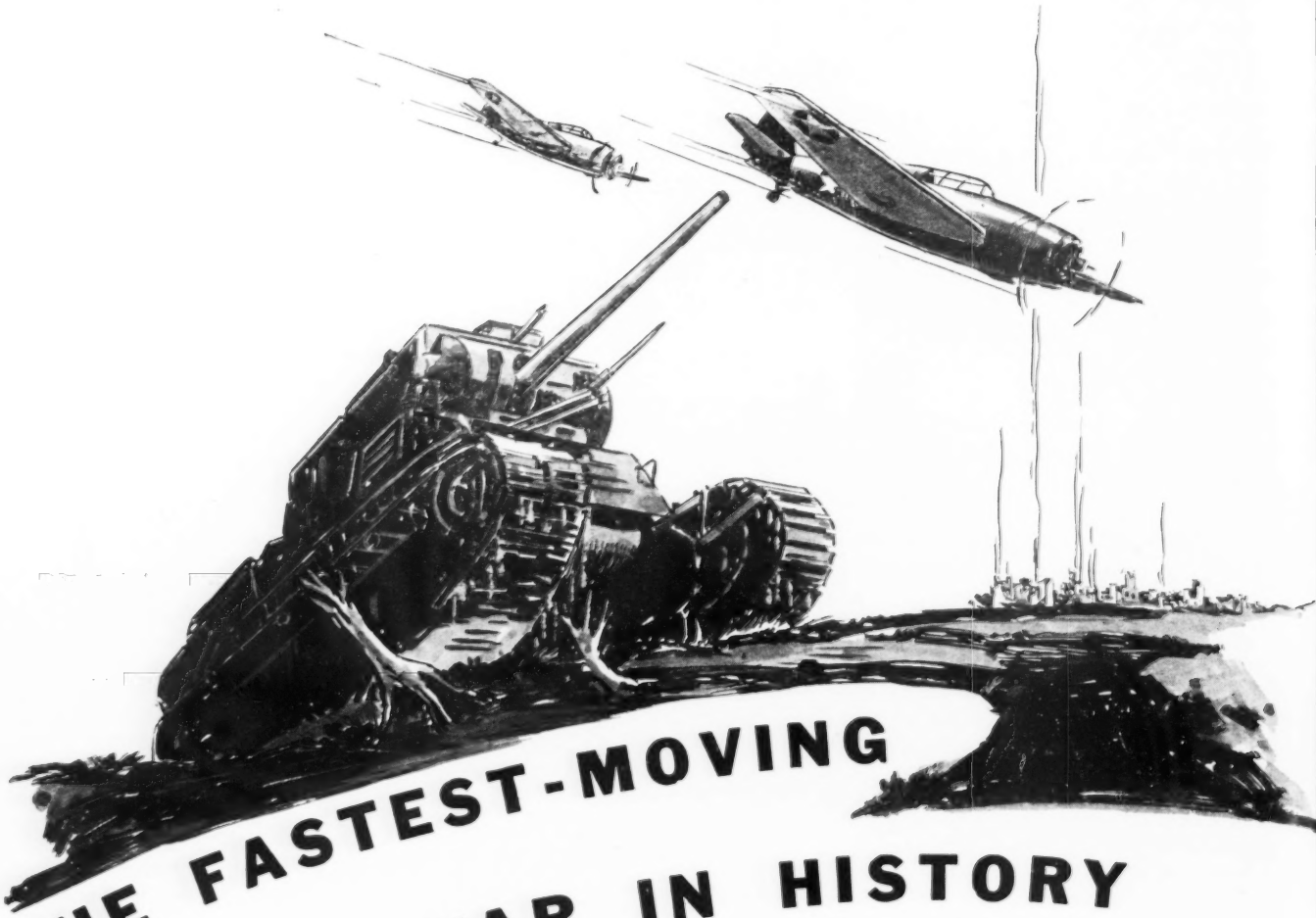
Fiber research helps you get the right yarns; *fabric development* helps you design new fabrics; *The Textile Unit* helps you solve mill problems; and CROWN Tested gives you scientific performance facts on finished fabrics containing CROWN Rayon—are all part of our 4-PLY SERVICE. All are designed to help you make the best possible use of the available yarns and fibers. Make use of the 4-PLY SERVICE!

AMERICAN VISCOSE CORPORATION

Producers of CROWN* *Rayon Yarns and Staple Fibers*

Sales Offices: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

Plants: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.



THE FASTEST-MOVING WAR IN HISTORY

Blitzkrieg on land and blinding speed in the air characterize the second World War. Opposing forces move at speeds that surpass even the visions of earlier commanders. And to keep *our* forces in action successfully, American industry must set amazing speed records of its own.

Universal RING

BOWEN ROUND POINT TRAVELERS
BOWEN SQUARE POINT TRAVELERS
BOWEN IMPROVED VERTICAL BRONZE
BOWEN PATENTED BEVEL EDGE
BOWEN PATENTED NE-BOW VERTICAL
BOWEN PATENTED VERTICAL OFFSET
BOWEN FLAT OVAL AND ROUND
WIRE TRAVELERS

RAYON PRODUCTION

Keeps Pace with the Times

Production of rayon—America's youngest textile fiber—has increased sensationally for twenty years. Today, with many fibers disappearing from the consumer market, a fighting, textile-hungry nation of 130 million combatants and civilians is calling for rayon products. Naturally the rayon industry demands intricate, high-speed machinery: specially designed twisters—machines requiring perfectly-designed Ring Travelers for speedy, efficient output.

Universal Standard Ring Travelers are designed especially for these specifications: They're toughly made from the finest alloys, yet balanced delicately to assure uniform size and shape. In ordering or operating equipment, be sure you have U. S. Ring Travelers: they meet *all* requirements for their role in producing high-grade rayon yarn.

Sealed metal containers bring U. S. Travelers to you in perfect condition with no tampering or loss in count.

Ne-Bow Patented Vertical Ring Travelers are developed especially for the needs of the rayon trade. By eliminating pivot action, traveler is kept closely in contact with lubricating device, aids in distributing lubricant evenly over ring's inner surface. This prolongs life of both ring and traveler, promotes a more even twist.

U. S. RING TRAVELER CO.

PROVIDENCE, R. I. GREENVILLE, S. C.

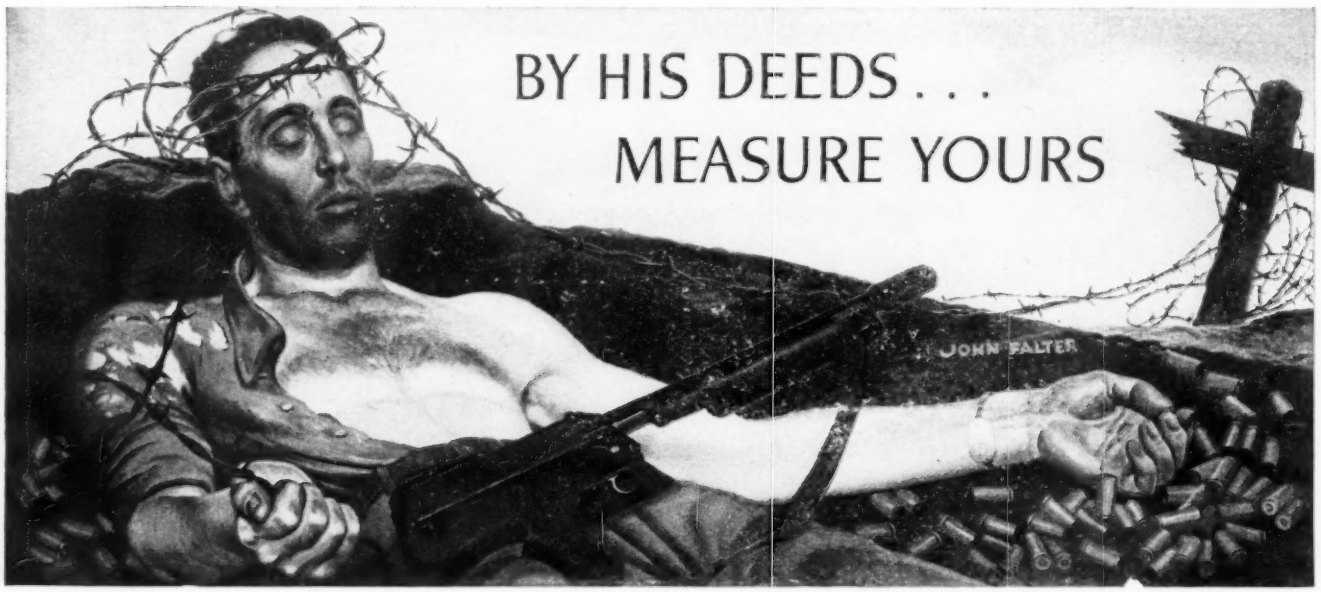
AMOS M. BOWEN, Pres. and Treas.

U.S. RING TRAVELER CO.

"A Traveler for Every Fibre"

Standard TRAVELERS

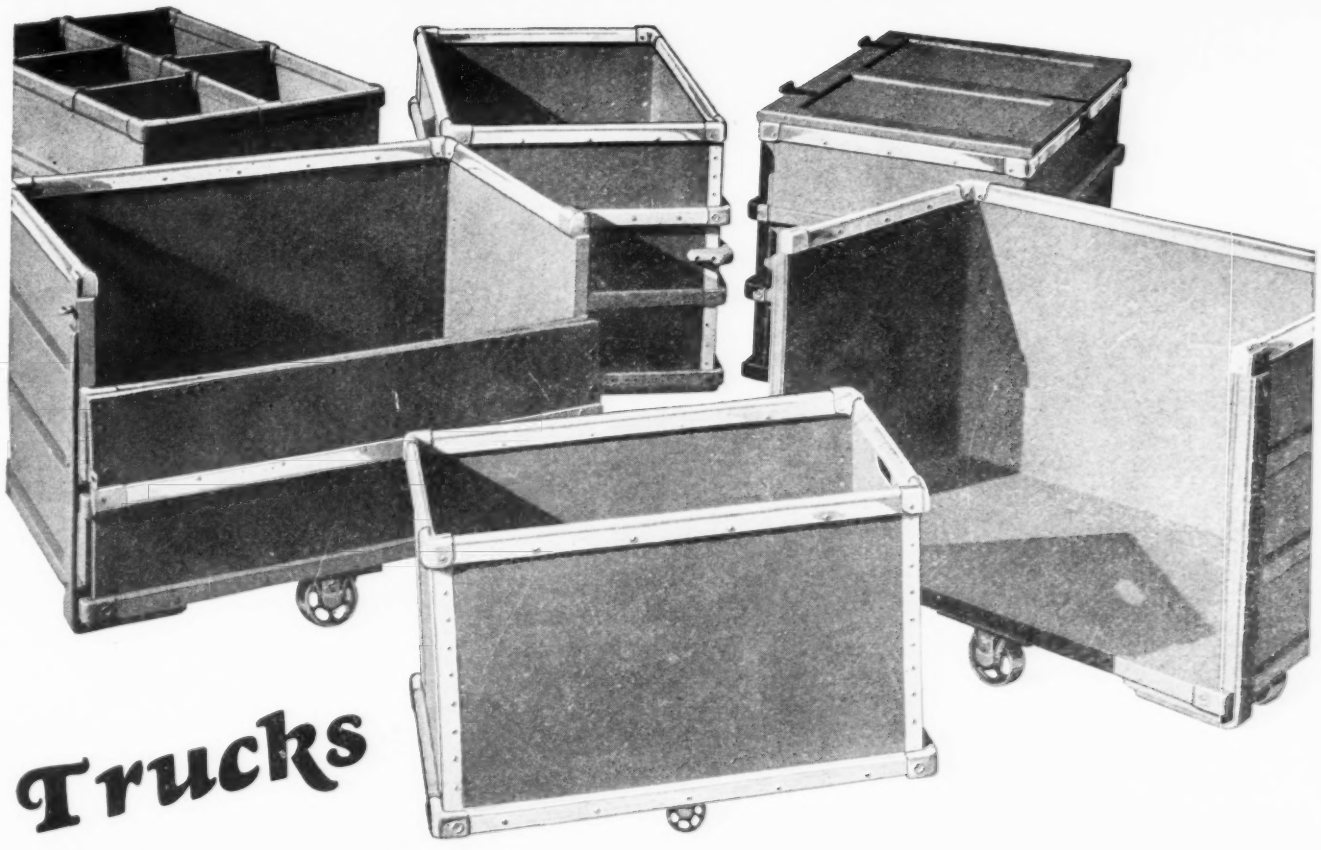
IT is not pleasant to have your peaceful life upset by wartime needs and restrictions and activities. . . . It is not pleasant to die, either. . . . Between you who live at home and the men who die at the front there is a direct connection. . . . By your actions, definitely, a certain number of these men will die or they will come through alive. If you do everything you can to hasten victory and do every bit of it as fast as you can . . . then, sure as fate you will save the lives of some men who will otherwise die because you let the war last too long. . . . Think it over. Till the war is won you cannot, in fairness to them, complain or waste or shirk. Instead, you will apply every last ounce of your effort to getting this thing done. . . . In the name of God and your fellow man, that is your job.



The civilian war organization needs your help. The Government has formed Citizens Service Corps as part of local Defense Councils. If such a group is at work in your community, cooperate with it to the limit of your ability. If none exists, help to organize one. A free booklet telling you what to do and how to do it will be sent to you at no charge if you will write to this magazine. This is your war. Help win it. Choose what you will do—now!

EVERY CIVILIAN A FIGHTER

CONTRIBUTED BY THE MAGAZINE PUBLISHERS OF AMERICA



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DESIGNED TO MEET YOUR SPECIFIC PROBLEMS

Usually at no extra cost over standard trucks of the same over-all dimensions.

DIAMOND Fibre Trucks help you use your man-power more effectively, assure maximum production schedules with minimum losses.

Diamond Vulcanized Fibre Hollow Ware is sturdily built. Light in weight (only half as heavy as aluminum) . . . with a smooth, hard surface, readily cleaned and easily kept clean . . . rust, splinter and mildew proof . . . armored with metal at wear-points, and all metal parts rust-resistant plated.

Write today for your copy of Catalog HW-9. It describes the complete C-D line of Diamond Vulcanized Fibre Hollow Ware . . . Baskets . . . Boxes . . . Trucks . . . Cans . . . Barrels. Submit your "material and parts handling" problems to Material Handling Equipment Headquarters—No. 9 Chapel Street, Newark, Delaware.

DIAMOND Vulcanized FIBRE Hollow Ware

Boxes • Barrels • Trucks • Cans • Baskets • Trays

CORRECTLY DESIGNED
ACCURATELY BUILT

Southern Warehouse & Sales Office: Spartanburg, S. C. C. L. Simmons, Mgr.

CONTINENTAL-DIAMOND FIBRE COMPANY

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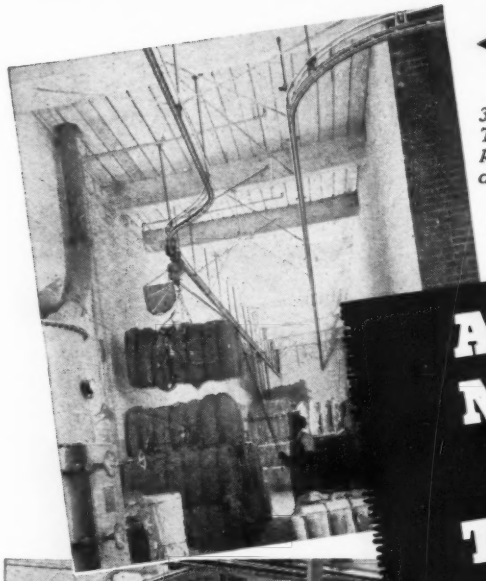


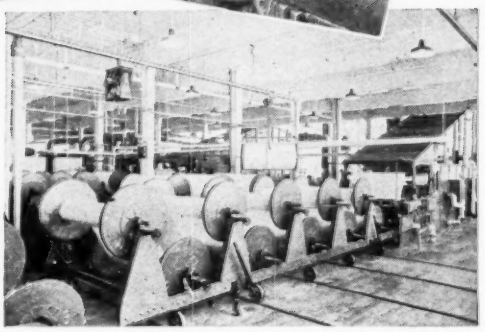
Inexpensive hoist and track provides low cost handling and storage.

3 ton hoist unit with Monc-Tractor handles loads from kiers throughout entire dye house.

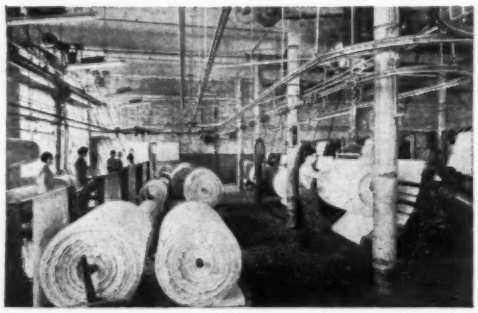
AMERICAN MONORAIL *in* Textile Mills

Simple Method for STEPPING *up Production*

Hand operated crane with electric hoist covers beam storage area for serving slashers.

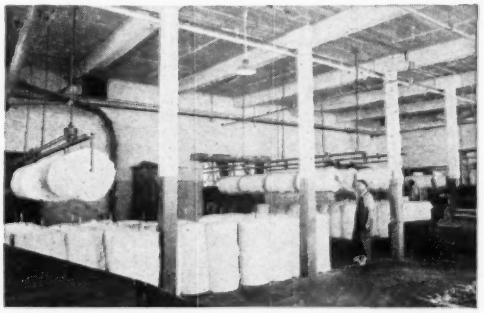


Chain hoist loads creel which is rolled into position to keep slasher in full production.



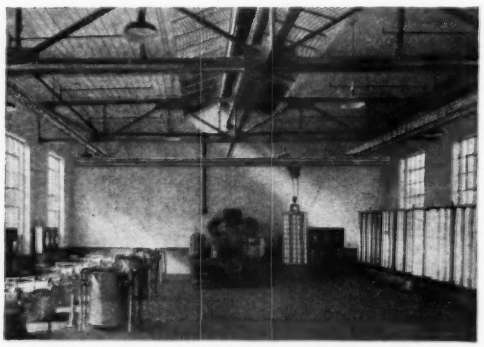
Special carriers loaded by hoist on auxiliary track transfer rolls from finishing to inspection.

AN American MonoRail Engineer will gladly show you how it can be done in your mill. Write today.



Carrier handles four laps on tracks extending throughout the card room.

Overhead handling of warps and rolls permits compact arrangement.



Hand pushed crane with electric hoist completes the operation of package dye house.

THE AMERICAN MONORAIL CO.

13106 Athens Avenue ★ Cleveland, Ohio

APRIL, 1943

Volume 107 Number 4

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Editorial and Business Offices

GRANT BUILDING
ATLANTA, GEORGIA

COTTON

SERVING THE
Textile Industries

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When Yank Rangers go into action—their days of grim and arduous practice and experimenting *are behind them.* And when Dayton Pickers go into action on the looms of America—their days of "practice" and experimenting *are behind them.*

There is no substitute for experience—and dating back 37 years is Dayton's "*know-how*" and pioneering in the development of industrial rubber products.

That long and hard-won "*know-how*" is back of *mill-proved* Dayton DeLuxe Pickers.

The Dayton DeLuxe is *the* picker tough enough to take the *constant* pounding of modern high-speed looms—to keep production *up* and picker costs *down.*

DAYTON DE LUXE PICKERS
PIONEERED, ENGINEERED AND PROVED BY ACTUAL MILL SERVICE

1. Cut Picker costs up to 50%.
2. Greatly increase production.
3. Save operating time.
4. When boxed, loom stays in parallel.
5. Throwing a crooked shuttle is eliminated.
6. Jerked-in fillings reduced to a minimum.
7. Month-after-month service on high-speed looms.

Yes, Dayton's peacetime pioneering is helping the textile industry serve our nation at war with unprecedented production of uniform high-standard fabrics.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

HOME PLANT, TEXTILE PRODUCTS DIVISION
WAYNESVILLE, NORTH CAROLINA

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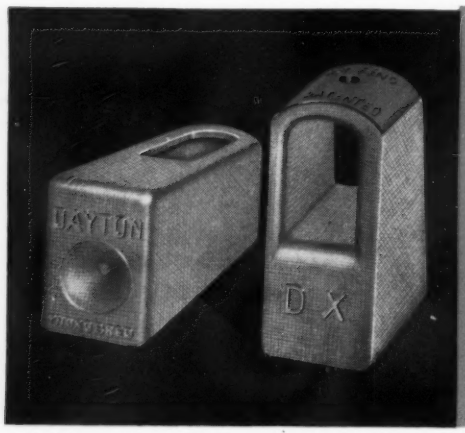
THROW YOUR SCRAP INTO THE FIGHT!
BUY WAR BONDS AND SAVINGS STAMPS



Dayton
***Thorobred* TEXTILE PRODUCTS**
LOOM SUPPLIES—**Dayco** TEMPERED ROLL COVERINGS
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

SHORTS AND REMNANTS

No Shows—Look for it in "Cotton"

About this time of year all roads normally would lead to the Greenville Textile Show and the Knitting Show at Philadelphia. We, along with thousands of our readers and advertisers, would be trekking to one or both of these expositions. April was a busy and hectic month in 1941. It still is, for all of us, in 1943, but the job to be done doesn't call for Shows. They and many conventions are out for the duration.

Shed no tears for the railroads and hotels which lose the Show business. The Southern Railway, the Poinsett and Philadelphian Hotels, along with other roads and hotels, are filled to capacity with war workers and young men and women in uniform. Look in on almost any hotel over the week-end to see the boys in khaki and blue with their wives and sweethearts grabbing a few precious minutes before taking off. 1943 is their year.

We all will miss the Shows and the exhibits of machinery, equipment and supplies. But there will be other shows—bigger and better than ever before—machinery eclipsing anything in use today—equipment and supplies utilizing new materials. The textile industry will go ahead and the Shows will play an important part in presenting progress.

In the meantime, watch our advertising pages each month for news of interest on equipment and supplies. With shortages of salesmen and travel restrictions, advertising pages are more important than ever before in bringing products and services to you. If you don't see what you want, write us and we'll try to find it for you—*Priorities permitting.*

(Hint to advertisers—Those customers and prospects you'll miss at Greenville and Philadelphia are reading this page right now.)

◆

Knitting Trade Carries On

Long years ago, the follies and caprices of the fair sex were going to ruin the knitting trade. No one could possibly keep up with the changes demanded. Then nylon of course was going to dry up full-fashioned manufacture. "It lasted too long." "Mills would be ruined."

But the death knell really rang when first silk, then nylon disappeared. Now rayons, which once were " a dime a dozen", are eagerly sought after and are scarce and getting scarcer. Many counts of cotton and lisle, particularly fine, are almost non-existent. But don't send the undertaker around yet.

True, the knitting trade as a whole has, like Job, more than its share of troubles. Some mills have been scrapped or dismantled. Others are seriously curtailed. Any report of its being a corpse, however, is likely to find a lusty denial.

For 1942, underwear production was at a new peak, 7 per cent above record 1941; hosiery production was only 3 per cent below 1941 and seamless was actually ahead. Even full-fashioned hosiery ran something over 35,000,000 dozen pairs and the pessimists for 1943 predict at least 30,000,000 dozen pairs this year. Armed Forces, including the new WAVES, WAACS and SPARS, are knitting customers. The knitting trade carries on in the face of shortages of yarns, new machinery and manpower.

Knitting machinery manufacturers are contributing actively to war production on a varied front.

"Almost a year ago, we discontinued the production of full-fashioned knitting machines, and are now devoting about 90 per cent of our entire facilities to the war effort. The remaining 10 per cent are being devoted to servicing the industry with needles and replacement parts. The equipment which we are making for the Government involves precision work of the highest degree, and gives us an opportunity to utilize the special machine tools and highly skilled workmen who were employed in normal times to produce the Reading full-fashioned knitting machine." This report of activity is from Textile Machine Works.

H. W. Butterworth & Sons Company "is working around the clock on two important war jobs. First, the production of gun mounts for the United States Army. Second, the building of Butterworth machines designed to break production bottlenecks in mills serving the war effort. Butterworth machines have recently been built for powder bag plants and spinners of high tenacity rayon."

The Loyal T. Ives Company "is busily engaged in supplying essential operating supplies to the knitting and textile industry whose production is predominantly centered on Government contracts. In addition, a number of items are being manufactured for the Army, the nature of which cannot now be disclosed."

The Torrington Company reports: "About all we can say is that we have increased our manufacturing facilities considerably since the war started and are manufacturing a number of items that are used in the war effort. The machine needles that we make for the textile industry are considered an essential commodity and we naturally are making these in large enough volume to take care of the demands."

H. Brinton Co. reports.: "Our plant is practically 100 per cent on war work. This work consists principally of units and parts for airplanes and bearings for Navy ships."

Many other familiar names to the knitting trade such as Wildman Mfg. Co., Smith, Drum & Co., Scott & Williams, Fidelity Machine Co., Alfred Hofmann, Inc., etc., are deep in production of war materials, although they were not heard from as this was being prepared. Thus the knitting trades, both mills and equipment manufacturers, "carry on".

B. & L. at G. M. of AATCC

Or translated into English, Big ("Rip") Wear of Penick & Ford, Ltd., Inc., and Little ("Shorty") Pardue of Pabst Sales Co. at the Greenville Meeting of the American Association of Textile Colorists and Chemists.. To quote the little man himself—"'Rip' puts the starch in and I take it out".

◆

Victory Gardens

Come summer-time and those fresh vegetables from the Victory Garden are going to be mighty fine. Good healthy outdoor exercise, too. (Hope the wife doesn't see this).

◆

25 Years—Still Likes It

"We received COTTON this morning and although I've been a subscriber for 25 years (look it up), this is the best issue ever produced. It is just right. Thanks for the fine job you have done."

T. H. FLOYD
Superintendent,
Tallassee Mills,
Tallassee, Ala.

◆

"Maintenance Clinic" in Ads

Henderson Foundry & Machine Co., Hampton, Ga., has adopted an unusual program of service through advertisements in COTTON. Producers of repair parts for textile machinery, the company is operating a "Maintenance Clinic" through its advertising messages, utilizing its ads to provide practical maintenance pointers on various problems arising in the mill. "Dr. Kee Pum Running" is a figure created to add personality to the idea. An illustration of the idea is the March ad which, though the company does not manufacture v-belts, contains practical suggestions on maintaining them properly.

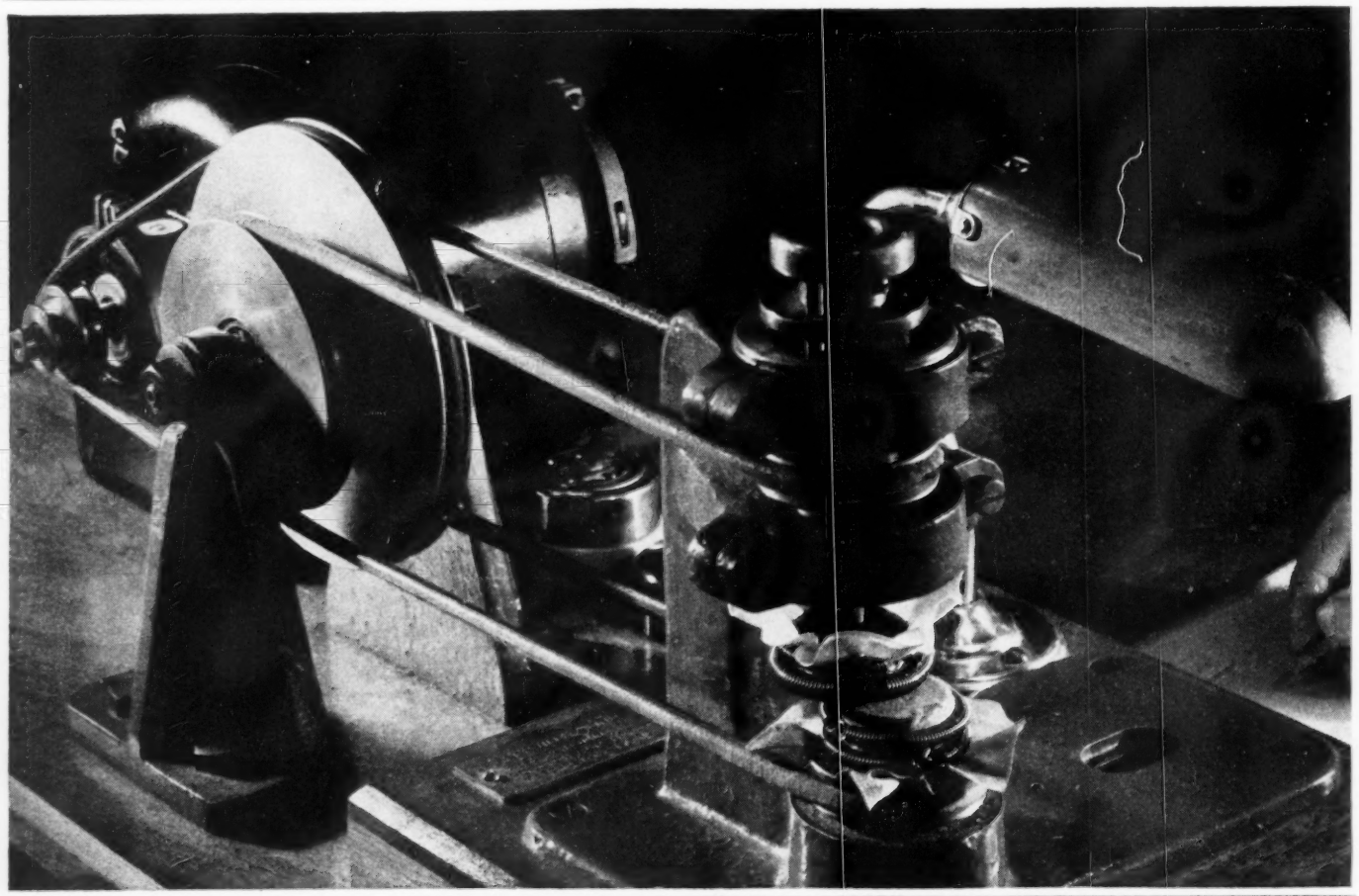
(See also page 156)

News of Our Boys—

John C. Fonville, on leave from the editorial department of "Cotton" for the duration, has just been promoted to captain in the Army Air Corps. He is located at the Army Air Base, Morris Field, Charlotte, N. C.

Richard P. Smith, promotion manager of "Cotton" when he entered the service last year, has also been promoted to captain, and has been transferred from Washington to the state headquarters of the Selective Service System, Grand Theatre Bldg., Atlanta, Ga.

YEARS OF WEAR
measured in minutes!



ABRASION MACHINE ACCELERATES WEAR

Unlike most abrasion tests, this machine actually determines the wear of one fabric against another fabric. By "wearing out" both treated and untreated samples, the Rohm & Haas Textile Laboratories find the best finish to improve a fabric's wearing qualities . . . the most durable type of finish for each particular fabric.

Special textile finishes that have doubled, even tripled, wear resistance have already been developed in these laboratories.

DON'T GIVE UP UNTIL WE DO

Our modern research laboratories are complete with all types of specialized equipment for the testing and checking of every mill operation . . . all types of textile fabrics. When no standard laboratory machine is available, Rohm & Haas research men develop devices to accomplish the needed test.

From the initial development of a new product to the final plant processing of finished goods, the Rohm & Haas Textile Laboratories are ready to help you.

TRITONS — *Synthetic detergents, emulsifying, wetting, and dispersing agents.*
RHOTEXES — *Synthetic gums for sizing and thickening.*
DEGOMMAS — *Concentrated diastatic and proteolytic enzymes for desizing.*
RHOPLEXES — *Aqueous resin dispersions for finishing and coating fabrics.*
RHONITES — *Modified urea formaldehyde resins for textile finishing.*
PROTOLIN — *Stripping agent for wool stock and piece goods.*
FORMOPON — *Reducing and stripping agent in acid systems.*
LYKOPON — *Reducing and stripping agent in basic systems.*

TRITON, RHOTEX, DEGOMMA, RHOPLEX, RHONITE, PROTOLIN, FORMOPON *and* LYKOPON *are trade marks Reg. U. S. Pat. Off.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes . . . Chemicals for the Leather, Textile and other Industries

COTTON
SERVING THE
Textile Industries

Vol. 107 April 1943 No. 4

The New "Robber Barons"

FOR SEVERAL YEARS before the war, the Number One domestic problem in this country was the control of the rapidly expanding power of the labor unions. Of course, the war is now the all-important problem, but if the labor unions are permitted to pursue their current policies, we stand an excellent chance of not winning the war, and therefore labor union control might be considered our most important war problem. The unions have, with remarkable unanimity, flatly refused to bear their share of the war load. Labor leaders have vocally and loudly proclaimed their support of the war, and have contended that the members of their unions are ready to go all-out for victory, but when some concrete and definite war contribution is demanded of organized labor it has repeatedly refused to come through.

An Associated Press dispatch, dated March 12, quotes the President of the United Mine Workers, District No. Two, as saying, "No matter what the Labor Board says or does, if the men don't get a contract by March 31, they won't go into those mines April 1. We are out to get a substantial wage increase, and we are going to get it no matter what the consequences are." This union president at least was honest enough to put into words what most of the union leaders have only expressed by their actions. The phrase "no matter what the consequences are" seems to be the governing sentiment of the unions. We can't fight a war without fuel, but the United Mine Workers, who have a monopoly of coal mining, are prepared to stop the war effort if they don't get two dollars a day extra for mining coal. The employees of the Boeing Aircraft Company recently staged a strike which held up production of Flying Fortresses, and they seemed to have this same idea, that they must get their pay increases regardless of consequences. The rubber workers in Akron have demanded that more labor be found to join their unions and refused to lengthen their work week, even with overtime pay. The railroad unions demand the addition of 168 thousand workers to their ranks, although an enormous number of trainmen and certain other railroad employees only work two or three days a week, and some who draw full-time pay work less than the two days a week.

THE REASON that this labor union problem is of such tremendous importance and such great gravity is because the labor union is a monopoly which is fully capable of enforcing practically any demands it may choose to make and of extorting from the rest of the public practically any standard of living which it chooses to maintain. Theoretically, of course, a labor union is simply an organization of working people designed to give them bargaining power equal to that of their employers. Actually, however, the unions are monopolies and most of the strikes of the past few years have been aimed at expanding their powers and extending their monopolistic control over various industries. The closed shop, the check-off, the maintenance of membership contract—all are monopolistic devices which not only are unfair to the employer and the public, but establish a form of virtual peonage among the workers. In many industries, such as coal mining, it is impossible to work without belonging to the union, and the union thus holds power of economic life and death over the working man. He has about as much economic liberty as the old-fashioned European serf.

About 70 years ago the country was rapidly getting into the clutches of a group of corporate monopolies which aimed at controlling production, transportation and distribution. Railroad systems cut their rates at will to bankrupt competitors and then raised them without restraint to recoup their losses and make extravagant profits. Whole industries were coming under the control of one individual or a small group of individuals who ran the industries solely with the idea of squeezing out of them everything that could be squeezed. It took a fight lasting 50 years to bring these rapacious racketeers under control, and it seems odd that the Federal Government, which has waged a continuous battle to regulate or eliminate corporate monopoly, should foster and encourage a labor monopoly which is far more dangerous, since it is financially irresponsible.

THERE IS nothing wrong in principle about a labor union, but there is plenty wrong about a group of labor unions which organize a monopolistic racket, and the necessity for controlling or eliminating these labor monopolies is just as urgent as controlling or eliminating financial or industrial monopolies. There can be no progress or prosperity with industry under monopolistic control, whether that control is financial or exercised indirectly by labor rackets. The labor union people always raise the cry that a person is an "enemy of labor" if he criticises even the most ruthless piece

of racketeering perpetrated by a union. 50 or 60 years ago this same cry, that a man was an "enemy of business" was raised when somebody objected to the rapacious tactics of the "robber barons". Now, the labor union leaders are the "new robber barons", and just as intent on pillage in their own way.

In the March 1943 issue of the *Readers' Digest,* there is an article, "Featherbedding Hampers the War Effort", which is a condensation of an article from *Barron's,* and which should be read by everybody in the United States. It is a brief discussion of how the railroad unions over a period of years, during which they have exercised a complete monopoly of railroad labor, have instituted rules and regulations which enable three or four or five men to make a living off of a one-man job.

What the railroad unions have done is merely a pattern of union policies everywhere. The universal union slogan is "More Pay for Less Work", and we have never known of an industry in which efficiency and productiveness have not fallen off as soon as the unions got into it. The railroads offer probably the most horrible example of all, although these railroad unions have been repeatedly held up by the heads of our Government as ideal labor organizations, fully worthy of public confidence. However, any careful study of railroad operation will show that if the operating forces of the railroads were permitted to work 48 hours a week, the railroads would have more men than they needed and would have to lay some of them off. Yet, when train crews are working less than one-half or one-fourth of the time, their union has the unmitigated gall to ask for a wage increase, and for an increase in the number of employees, when there may already be more train crews on the payroll than the railroad could possibly use if the crews could work steadily. This is the kind of labor racketeering that these entrenched unions have put into effect, and which is a part of the policy of every union upon achieving complete entrenchment.

THERE IS no better example of the deadly effect of unionism on progress than that offered by the textile industry itself. The unions in New England bitterly opposed the introduction of the automatic loom and the tying-in machine and the automatic spooler and every other mechanical improvement which reduced operating cost by abolishing useless jobs. Had the whole textile industry been fully unionized, there is every reason to believe that today our mills would still be operating with the old plain looms and with other machinery which is now entirely obsolete. The unions have consistently and viciously opposed all improvements that encroached on their prerogatives. The manufacturer was supposed to be able to exist in a competitive economy, but the union refused to submit to competitive conditions. It always has demanded monopolistic control and the right to fix its own working conditions. The coal miners' union for years bitterly and successfully fought the introduction of mining machinery. The railroad unions, as so forcefully pointed out in the *Readers' Digest,* have successfully resisted progress in a rather unique way, since they have been able to take advantage of the improvements in railroading to reduce the amount of work done by the employees, while increasing their wages. If the Fall River weavers' union had agreed to the installation of automatic looms with the understanding that each weaver must work but one day a week and draw the same pay he previously got for a full week, this would represent exactly what the railroad unions have done to the railroads. A weaver could handle about eight plain looms, and if he had agreed to run 48 looms eight hours a week instead of eight looms 48 hours a week for the same pay in each case, this would have been the same kind of racket that the railroad unions have been operating.

The only reason that the railroad unions have been able to get away with such a monumental steal from the public is because for a good many years railroad wages have been determined by a Government agency instead of by competitive conditions. A Government board has set railroad wages and another Government agency has adjusted rates to enable the roads to pay those wages. A little railroad in Illinois tried about two years ago to shake off the bonds of the railroad labor rackets, and this road was run quite efficiently and successfully with less than one-third of the employees the unions required for railroad operation. The unions finally managed to have the President of the United States seize this railroad, and it is still being operated by the Federal Government. When the unions presented their case before the mediation board their labor schedule called for more than three times the force which was then employed by this railroad under Federal operation. The road was handling its traffic satisfactorily and there was no complaint or criticism of the wages paid or of the working conditions, except that its employees were required to work full-time instead of only one-third of the time to earn their wages. If the unions demanded that this railroad employ three times as many men as were needed, it seems likely that they enforced the same demands on the big railroads, and the public carries the load.

THE UNIONS have reached their present position of irresponsible power largely because they controlled large blocs of voters, and Congressmen and other politicians are extremely responsive to the power of highly-organized minorities. The political weapon of the unions was the threat of defeat at the polls for any politician who opposed them. The economic weapon was the strike.

The strike is a very peculiar institution, being a thoroughly illegal practice which has been sanctioned by every court, including the Supreme Court. This anomalous condition is brought about by the fact that what the unions say a strike is, and what a strike really is, are two entirely different things. Before every court, the union lawyers invoke the Constitution of the United States in defense of a man's right to quit his work, and the courts have no alternative but to recognize this right. According to the union lawyers a strike is merely the exercising of the individual's undeniable right to quit his job. Actually, however, nothing could be farther from the truth. When striking, the union workman is not quitting his job

(*Continued on page* 128)

An exterior view of the building occupied by the newly-formed Callaway Institute, Inc., at LaGrange

CALLAWAY INSTITUTE, INC. Established as Research Agency

By Robert W. Philip

Independent and self-contained institution acquires and expands research facilities and personnel of the Callaway Mills. To engage in research and education with services available to other organizations . . . . .

A STRIKING development in the field of textile research is the establishment of Callaway Institute, Inc., at LaGrange, Georgia. It has been chartered as a non-profit organization to be devoted to research, science and education; its facilities and services to be available, by contract, to any mill or other element in the textile industry or to any other type of business it is qualified to serve. It was established in March by Fuller E. Callaway, Jr., president of Callaway Mills, and its nucleus is the former extensive research department of Callaway Mills, but it is an entirely separate, self-contained institution, and has no connection with that corporation except on the same contractual basis which it can now maintain with any other organization making use of its services.

Background of Institute

It has been generally recognized in the textile industry that the Callaway Mills have been outstanding in the progressive attitude they have evidenced toward research. For a number of years they have operated a comprehensive research department, fully staffed and equipped, and directed by one of the company's vice-presidents who has devoted his full time to this function. Starting as a definite department in June 1938, after several years of operation as a part of the company's technical staff department, the Callaway research department has grown steadily and soundly, with enlargement of its personnel and facilities at a pace that has kept even ahead of the parent company's own progress. There are many instances wherein this department has, through research, either created a development or supplied the answer to a need—in process, product or otherwise—so adequately that its usefulness to the corporation has constantly increased, and it has unquestionably proven out as an excellent investment.

Callaway Institute, Inc., begins with this going organization as a nucleus. Perrin N. Collier, vice-president and director of research of Callaway Mills, heads the institute as vice-president and executive director. Fuller E. Callaway, Jr., is president.

The Building and Departments

The Institute has acquired, by lease, the building in LaGrange formerly containing the Callaway Vocational School, the activities of which are being continued and broadened by the Institute. Basically, the chief reason for detaching the research department from the mills, and creating the Institute around it, was to provide this effective organization with a broader sphere of activity and opportunity, to open wider horizons of accomplishment than would ever be possible as a department of any private corporation, even one so completely committed to research as is Callaway Mills. Also, there was the reason that, as an autonomous unit, under full responsibility of its own, the organization can operate more effectively and efficiently. It will set its own policies and control its own financing, and its functions and activities may be more clearly defined and understood. It will, at once, have the stimulus and incentive of a self-reliant organiza-

tion and not be subject to activities extraneous to its purposes.

The commodious two-story brick building, 100 x 150 feet, in which the Institute is housed, has been re-arranged into departments that admirably adapt it to the Institute's needs.

To the left of the main entrance on the main floor are the executive offices, to the right are class rooms. About one-fourth of the space on this floor is devoted to the textile laboratory, wherein one piece of every type of equipment required in cotton manufacturing, from opening through weaving of different types, has been assembled in a large room, making it a miniature but complete mill. The eastern end of the rear section of this floor is given over to offices of several department heads, including the loom specialist or weaving technologist, the head of the mechanical and electrical engineering department, draftsmen, etc. Immediately adjoining is extensive pilot plant space in which is housed the mechanical laboratory, with a complete assortment of hand tools and power tools for the construction of equipment as desired.

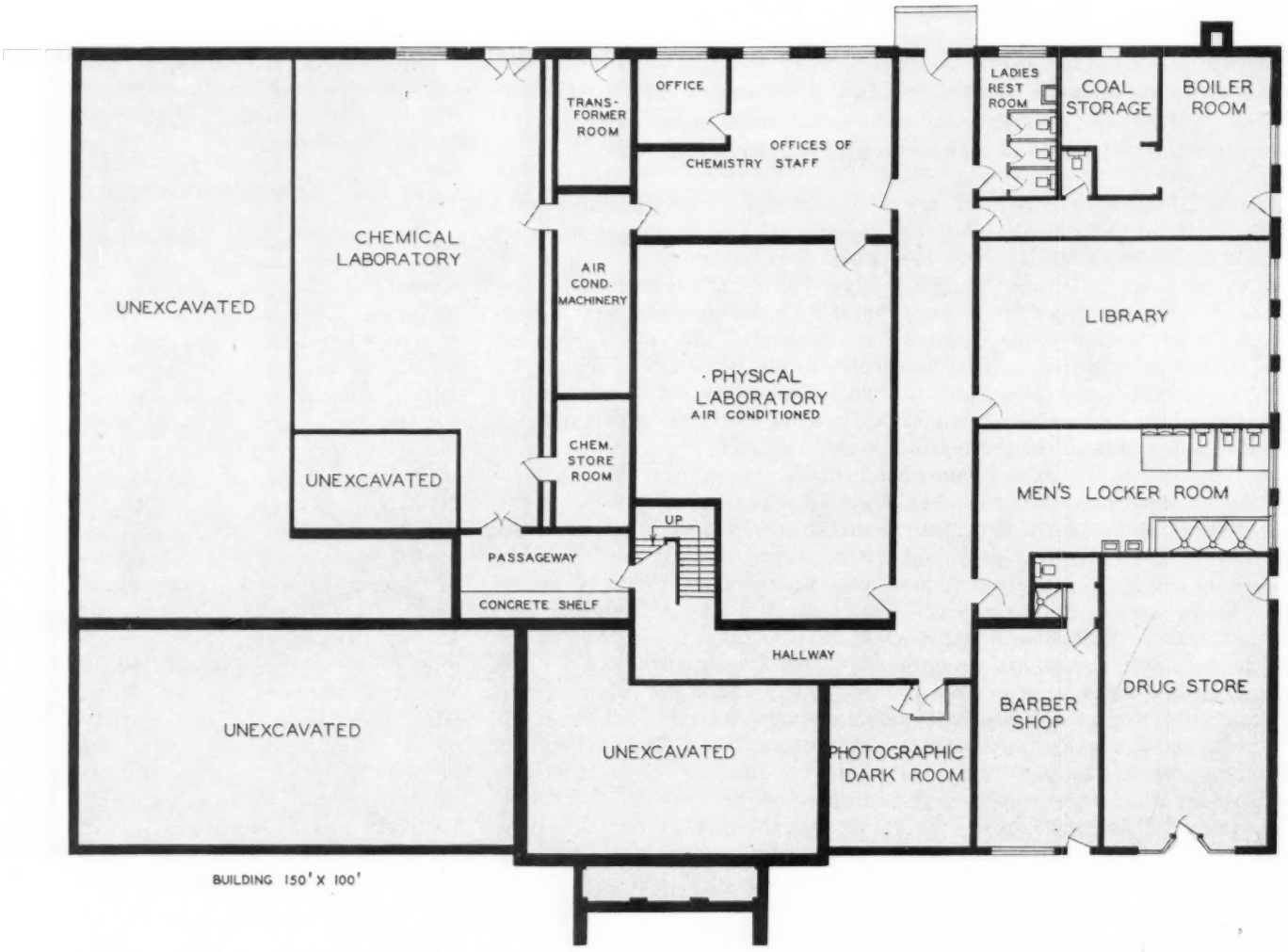
The lower floor contains the chemistry laboratory, the physical laboratory, the photographic dark room, and the library and patent department.

The chemistry laboratory is well equipped, having a large assortment of standard glassware and many pieces of interchangeable ground glass apparatus. There is on hand a wide variety of reagent chemicals and several pieces of especially designed equipment, all of which facilitate chemical investigations. The laboratory desks are equipped with gas, water, compressed air, and steam. Hot water and distilled water are available in the laboratory.

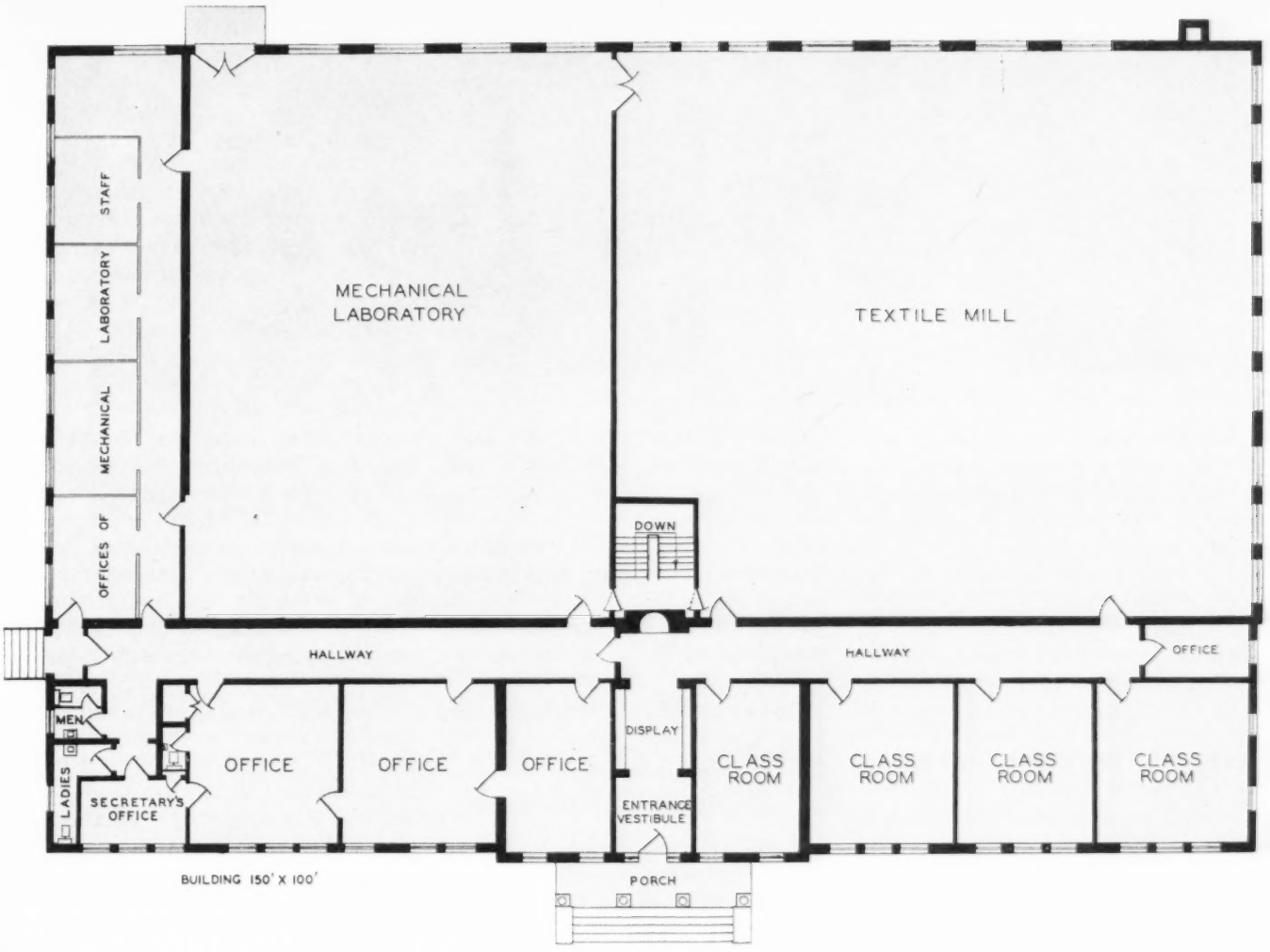
The physical laboratory is devoted to the study of fundamental fiber properties. The room is air-conditioned, the standard temperature of 70 degrees F. and 65 per cent relative humidity being maintained. Aside from regular testing equipment there is on hand a Bausch and Lomb binocular microscope, two very sensitive analytical balances, and a Pressley fiber tester. Plans call for an electron microscope, and for complete X-ray equipment.

The photographic dark room is painted a panchromatic green, and is equipped with a large lead sink and a variety of developing apparatus. The equipment includes two enlargers. The Institute owns a Graflex camera and has stroboscopic equipment available.

The physical facilities of these departments, acquired from Cal-



The lower floor of Callaway Institute, Inc., showing location and size of the chemical and physical laboratories, chemical staff offices, photographic darkroom and the extensive technical library . . . . . .



The main floor of Callaway Institute, Inc., showing the executive offices, classrooms, textile mill unit, mechanical laboratory and offices of the mechanical engineering staff . . . . . .

laway Mills' former research department, have been and will continue to be augmented as needs arise and the additional equipment and personnel are available.

The Library

The Institute library, comprising more than 2,000 volumes, is perhaps the most complete collection of literature in the textile industry. It is located in a comfortable downstairs room, close to the chemical and physical laboratories, and is supervised by a full-time librarian. The shelves have been designed for maximum convenience of the staff. There is a large section on chemistry consisting of bound volumes of periodicals, reference works and books. There is a section on physics and a section on textiles, and finally, a section on engineering featuring standard works in this field. There are reference works of general interest, such as the *Encyclopedia Britannica,* Worden's *"Technology of Cellulose Ethers"*, and Beilstein's *"Handbuch Der Organischen Chemie"*.

The patent department functions as a department whose services are available to clients separately, and as an essential and invaluable adjunct to all forms of research.

The Institute Personnel

But the finest equipment and facilities in the world would be completely sterile and ineffectual so far as research is concerned, without adequate personnel. As someone has said, research must have brain-power and vision and imagination and commonsense, so it is appropriate to study the personnel that makes use of this fine plant.

Mr. Collier, the executive director, attended the University of Georgia, and has been a member of the managerial staff and an officer of Callaway Mills for more than 15 years, devoting his full time for the past six years to the function of research. Under his direction are the several major divisions described. Heading up the chemical staff are:

B. Reid Clanton, Ph. D., research chemist. Dr. Clanton did under-graduate work at the University of South Carolina and at Furman University, with graduate work at the University of North Carolina under a fellowship of The Textile Foundation, working under Dr. Cameron. He taught for one year at Baylor University, Waco, Texas, before joining the Callaway organization several years ago.

Fred S. Perkerson, Ph.D., research chemist. Dr. Perkerson did his undergraduate work at the

Left, Fuller E. Callaway, Jr., who is president; right, Perrin N. Collier, who is vice-president and executive director, of the Callaway Institute, Inc. . . . . .

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Georgia School of Technology and in the school of experience at Callaway Mills, with graduate work at the University of North Carolina.

S. Jack Davis, M. A., A. M., research chemist. He did undergraduate work and one year of graduate work at Emory University, two years of graduate study at The University of Illinois, and four years at Harvard University where he received the A. M. degree.

The mechanical and electrical engineering department is headed by Clarence M. Asbill, B. S. in E. E. He was graduated at Clemson College, studied at Cornell University, and was assistant professor of electrical engineering at Clemson. For five years he was with the Agricultural Marketing Service of the U. S. Department of Agriculture and later was with the Southern Regional Research Laboratory at New Orleans.

Alfred Auge, B. S., is patent counsel of the Institute. He received his degree at Armour Tech in electrical engineering, and studied law at DePauw University.

S. P. Parker is loom specialist or weaving technologist. Mr. Parker has spent his entire career in the textile manufacturing business, and has held operating executive positions in several textile organizations, including Callaway Mills.

George F. Rodgers, B. S. (Piedmont College) is junior chemist. Miss Sara Hutchinson, B. A. (LaGrange College) and Miss Alice Sutherland, B. A. (LaGrange College) are assistant chemists.

Miss Katherine Glass, A. B. (LaGrange College) and B. L. S. (Emory University) is librarian. Miss Mary Stallings, A. B. (Wesleyan College) is secretary to Mr. Collier; Mrs. Edna D. Tyre is secretary to the staff. Mrs. Erin Brannan is registrar of the school. John W. Hickson is assistant draftsman; William Herrington and John W. Starke are research mechanics; and Harvey Smith and George Crossley are laboratory assistants.

A bacteriologist has been employed and will begin work on June 1.

Objectives of Institute

Just as Fuller Callaway has been a pioneer in many other ways in the field of research in textile manufacturing and products, so now he has taken another forward step in the establishment of Callaway Institute, Inc. He is making available to the entire industry, to any type of industry for that matter, an established institution that has proven its worth as a part of his own organization. It should be emphasized here that the facilities of the Institute are now available to anyone seeking them and with whom the Institute itself wishes to contract. It is completely self-sustaining and independent. Since it naturally carried over a number of projects already under way for Callaway Mills, and since research work is limited by the elements of available personnel and facilities, a major portion of its current work is for that organization, but this is now entirely on a contractual basis. On further projects, Callaway Institute, Inc., must demonstrate to Callaway Mills its capabilities as measured by the capabilities of other commercial research institutions to handle a given assignment. And by the same token, the Institute is entirely free to direct its activities in any desired direction, just as does any one of the integrated research organizations of the country whose ranks it has joined.

This article has no more than mentioned the sphere of education in which the Institute is chartered to function along with its research activities. Some sound thinking and planning as to future activities in this realm are being done by the Institute management, and the results will form the basis of another interesting story at the appropriate time. As formally stated in the petition for charter, the program of the Institute is at least three-fold. There is a broad educational purpose—that of preparing adequately trained manpower primarily, but not exclusively, for the textile industry. The second objective is to conduct scientific investigations, which will be both fundamental and applied in character, and will include an interest in chemical nature, physical properties, and mechanical adaptability. Again it should be stressed that the activities of the Institute will not necessarily be confined to the textile industry, although the major interest will doubtless continue to be in this field.

Finally, the matter of imparting the results of research to the interested layman will be a matter of increasing importance as the Institute continues. A very useful service it will perform is to reduce to its lowest common denominator the complexities surrounding a given problem and to make available to industry not only the results of work done in the Institute, but also the accumulated knowledge of the published work on a given topic.

If we have told the story of Callaway Institute, Inc., and its plans and program adequately, it should be crystal clear that its formation gives striking evidence of its founder's increasing belief in research and the absolute need for something definite to be done about it in the textile industry as a whole. Some further tangible evidence of his leadership in and complete support of co-operative promotion of research by the textile industry at large will undoubtedly be generally known by the time this article appears.

TRAINING JOB INSTRUCTORS

By W. Ernest Spain

NO ITEM in mill management today exceeds in importance the problem of training workers, new and old. Different plants are adopting different methods, but a proven procedure, to insure needed speed in results, and co-ordinated methods, is through the training of job instructors, who in turn train the workers.

Here is a sound discussion of the problem, including suggestions on operating classes for training the job instructors, with much that is applicable to the training program itself. The author has had the privilege of applying accepted training techniques directly in several textile plants, and this discussion gives the benefit of this specialized experience.

THE AIM and object of this discussion is to show the importance of training in the textile industry and the important points to keep in mind when setting up a program; also the points to consider when conducting a class.

This training job is a very important one at this critical time. In the past, and to some extent during the present time, many of us have taken the problem too lightly. When we get new personnel, we take the easiest way out; being rushed and burdened with many other responsibilities, we take a simple tack or course, and hope for the best. Then when the employee asks a question, we, being well versed on the subject, immediately have a picture in our minds of the entire answer, but vocally we give him only the high spots and fail to give him the details which are known as the finer tricks of the trade and which help to make very good employees. We do not go into detail to explain and show how it is done, neither do we check to see whether our instructions are followed.

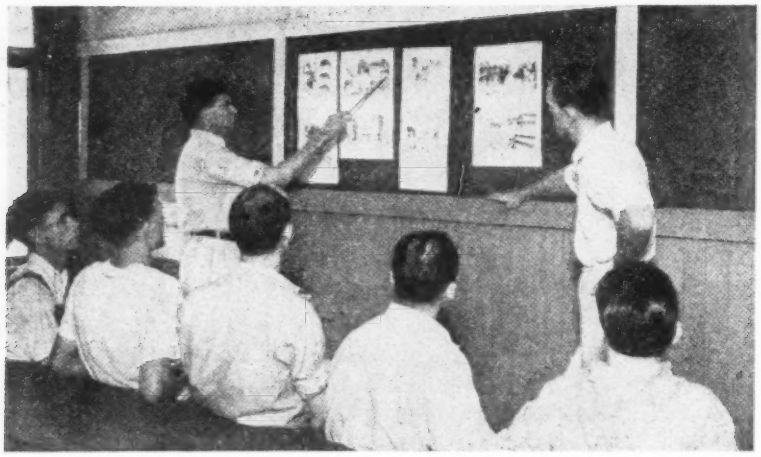
The textile industry in the past few months has grown so rapidly to peak production that many mills have devoted their energies to mechanical equipment, supervisors, cost of material, cost of insurance, payroll deductions, personnel problems, etc., but have paid very little attention to the problem of training. Proper training of workers prior to placing them on a payroll job, and constant training of older workers, pays higher and better dividends than we can imagine. All textile mills keep elaborate charts on original and upkeep cost of equipment, insurance rates, spoilage, revenue, payroll costs, etc., but if a similar elaborate chart of poor efficiency because of improper or careless training methods was made, the answer would be startling.

Mr. Spain, the author of this discussion, is field representative of the apprentice and training service, War Manpower Commission, Grand Theatre Building, Atlanta, Ga. He and his agency are currently assisting textile mills in the Southeast in developing adequate training programs. This discussion is taken from a comprehensive study just completed by him, entitled "Job Training in a Cotton-Textile Plant", based upon his experience in plants of this nature. The book covers in detail all phases of training, including forms, records, etc., in a cotton-textile mill. —The Editor.

Training Now Is Different for Many Reasons

Today, training has taken on a new aspect. We are at war, fighting for our very existence; fighting for the principles we have built into this wonderful country—the four freedoms. This means that millions of men are serving in our armed forces to combat our enemies and the textile industry has done and is doing its share in supplying the armed services with men. Men are leaving as volunteers, and men are being drafted. Many workers are leaving to go into other industries, where they believe they will keep out of the draft by doing other work. Others are leaving because they feel that they can make more money on some other job, in many instances sacrificing the security of their present jobs for temporary financial gain, not thinking of what will happen after the war. All of these facts have an important part in putting the textile industry in its present plight.

The result is that today hundreds of new people are in the industry who are untrained and are costing the mills enormous amounts of money because they are untrained. To make matters still worse, the majority of the mills do not have a co-ordinated training program, nor are the people tested as to whether they can do the job of training properly. Now that the emergency is rapidly approaching the peak of



Put it on the board, and make sure everyone in the class understands

worker shortage, we must organize training programs and arrange for instructors to properly instruct the new workers, in most cases on the job, under production conditions. No doubt, because of the emergency, the problems and path through the trial-and-error method will be rough in spots. But the textile industry, as a whole, is finally at the point of undertaking a job to instruct new employees, and to instruct those who know their jobs how to instruct the new men and women coming into the industry.

The Out-Moded Method

Many supervisors, when placing a new man on a job, are content to give him mimeographed sheets with numerous explanations, etc., and then they put him on his own, with the hope that he will learn as he goes along and "catch on". But, if the employee doesn't acquire the correct habits, he is thought of by his superiors as "dumb", impossible to be taught, etc. But actually the superior was taking the easiest way out. The employee has accumulated numerous bad habits of procedure, and the result is that he is absolutely inefficient, with the result that the incorrect procedures are rooted in the employee's mind and it takes double the amount of effort and work to get the new employee to discard the old procedures and to proceed with the new, correct way, because for a while it causes a period of inconsistency and hesitancy. Therefore, emphasize the proper procedure from the early stages of training, and you will not use any valuable time in the future in trying to correct this or that.

When conducting classes, always remember that you know the subject you are teaching, and make sure the entire class is pursuing the same general trend of thought. Therefore, be very careful and do not go too fast through the lessons. Keep an agenda or plan of each day's study and the entire course, and proceed according to this plan. If it takes a little longer than planned, don't worry. Better to be a little late in completing the course than to have someone come through not clear on some points.

Remember, you have certain technical information and procedure to put across and show. Never leave anyone behind in your discussions.

"Selling" the Worker

In training the older workers, you must sell them the idea of training. The importance of streamlining production to meet the staggering demands of the national war effort should be emphasized. Show them how the new ways will make their jobs easier; show them that the better employees they are, the better are their opportunities for increased wages and advancement. If you don't sell them the idea of training, they will hesitate in attending classes because they will think that by coming it will show weaknesses and lower their status with the boss. Many will take the attitude that they are "good enough as they are."

Show them that they will gain prestige with their employer and their fellow workers if they themselves are well-trained. Also, point out that coming in contact with fellow employees and instructors will stimulate their minds and give them an opportunity to see easier and better ways of doing the job. It should also be pointed out that there are numerous opportunities today for better jobs in the textile industry, and that training will assist in preparing them for promotion. Employees who are well-trained are easier to supervise, take less supervision; therefore, cost less.

Teaching Procedures

There are several procedures an instructor must keep in mind in order to do an effective job of training his class. First of all, the class should be limited to approximately 12 trainees, because it is very hard to operate efficiently with a class which is too large, and when the class is too large, about one-third do not get any good out of it; you defeat the original purpose.

Next, there are a few things you absolutely must do. When you come to class, have all the necessary equipment, material and supplies. Keep them handy. Then, you must create an informal atmosphere. Let the class know that they are to feel free at all times to ask questions or take issue on points which might be under discussion. Remind them that during the course each student will be called upon to conduct a demonstration, and that after each demonstration the other members in the class are to take apart the demonstration and make comment, critical or otherwise on the methods used: Did he make the points clear to the "guinea pig" learner who was used in the practice? Did he exercise patience and encourage the learner to ask questions and pick out the important points in the demonstration? Did he repeat the demonstration until he was satisfied the learner was qualified to do the job? These and many other points are used to analyze the performance of the demonstrator or potential instructor. It is of prime importance that the one conducting the course set up at the beginning, and carry through the whole course, a spirit of friendliness among those attending. It is often good to remind the members of the class that

courtesy and friendliness toward their fellow classmen often are rewarded by the same consideration when they take their turn at a demonstration.

First Impressions Stick

At the start of a course of instruction in job training, members of the group are apt to be uneasy mentally, and concerned as to why they are in attendance. The impression made by the course conductor in the first few minutes is a big factor. If it is favorable it makes the work easier to carry on; if unfavorable, barriers may be set up that will extend difficulties into the whole course. Much that is done in the early minutes of the meeting spells success or failure in the course. The manner of your delivery, your tone of voice, should show clearly that you are in earnest, that you feel strongly about the importance of the work, and that you fully respect the knowledge and experience of the group. Give the members of the group an opportunity to tell you briefly about their own industrial experience and become familiar with the names of each member of the class as they are used on the job. Make them feel at home and stimulate interest throughout the course to participate in all of its deliberations. Avoid setting up a classroom atmosphere. Tell them they are going to discuss mill problems, just as a group of mill men—nothing highbrow.

In your opening remarks, make a lasting impression on the group of the staggering job which American industries are called upon to do in the present emergency, and maximize the importance of their contribution both as workers and instructors or other workers. Quote statistical facts and percentages which will make clear the whole picture of industrial production as it relates to the war effort. In all deliberations, inject and motivate interest in getting a good training job done as quickly and effectively as possible.

At the beginning of the course, establish rules as to starting time, dismissal time, recess, etc. If possible, have a secretary who will also act as a "back-stop", who will keep a record of absentees, and those who are tardy.

First impressions are important. Make the original interview clear

In permitting the group, at their first session, to draw up rules governing their own procedures, it will make them feel important; these rules will be followed much quicker than if the group is told that classes will last from such to such time with so much time for recess. They will feel that they are being forced to do it. But if they suggest it themselves, they will be morally obligated to be punctual. In having a secretary, or so-called "back-stop", he will not only keep records handy, but material which will be used in class or conference, and help you in showing different problems, putting on demonstrations, etc.

For example: suppose you are to show the group how to disassemble, oil and reassemble a spinning spindle. First, you would list on the blackboard, in one column, the routine and, in a parallel column, special or necessary information other than the doing motion. This combined list of steps and information should enable a novice to be prepared to do the job. Follow this by illustrating the different points involved and allow the group member to attempt to do the job.

Another technique that works well is to have each demonstrator break down his job beforehand and furnish the conductor with a copy. By this a check can be made to see how closely it is followed.

Assist a member of the group in clarifying his thinking by separating two or more points, that he might be offering, which might be jumbled, by helpful suggestions or showing again how it is done, or by putting his ideas down at one side until the point is clarified.

Sometimes a trainee confuses in his mind a point you are trying to explain with another point or problem you have discussed. By helpful suggestions show him again, or put his idea or question on a side, and explain the two points he has jumbled in his mind separately until the points are clarified.

Keep Your Temper

An instructor should never be irritable. To be a good instructor, you must cultivate patience, poise, and stability of nerves. You must never lose patience and become irritable because you will lose your grip on the class or group, and they will no longer respect you. The reason the trainee comes to class is because he wants to learn; your job is to teach him. There are very few of us who are born teachers, and it is something you cannot learn overnight. You get that by experience, so from the beginning, be very cautious.

A little kidding doesn't do any harm, as long as it doesn't get rough. It usually livens things up a bit and keeps the group members in a good humor. The instructor is responsible for how far this might be permitted, and he should ignore anything that might be malicious in its intent. It is not necessary to correct anyone, but merely skillfully to change the subject. To be highly successful, a conference on job training requires all the tact, poise, diplomacy and motivation of the instructor, supplemented by the good nature, unselfishness and constructive interest of the group members.

Start and stop the class on time. Never run overtime without the permission of the group, and then excuse those who have appointments. An instructor always insists that classes start on time; therefore, the group is correct in demanding that the class adjourn on time. If you are in the midst of an important topic, ask for permission to continue. Have the group appoint a timekeeper and ask him to be punctual in calling for the dismissal time and starting time.

In teaching, the following four

points should be used:

1. Preparation—of the student to receive the instruction.
2. Presentation—of the operations and knowledge.
3. Performance—try-out or application.
4. Test—follow-up and check.

The Four Steps in Teaching

Preparation: Before presenting a job to a trainee, the instructor has a job to do in preparing him for receiving such instruction. First in importance is to get the trainee at ease and have his undivided attention focused upon what you are attempting to give him. Try to have him act in a natural way, not strained. Find out what he already knows about the job, if anything. Avoid an atmosphere of general usefulness and direct the thinking at a specific job. Tell enough about the job to genuinely interest the man, yet keep the story brief. It is of major importance that the trainee be placed in the correct position so that he may easily follow the movements in the showing of the steps. An awkward or incorrect position often lengthens the time required to master a job. Here is the proper time to begin building up the interest factor. If a difficult spot in doing the job sets up an embarrassing situation for a trainee, the good instructor comes to the rescue and motivates the trainee into a state of poise and alertness. After all, if the trainee does not get the points of the job, it is usually the fault of the instructor.

Presentation: In presenting a topic, keep these points in mind: *Tell* him how it is done; *show* and *illustrate* how it is done. These are the basic fundamentals of putting over new knowledge and skills to your group members. Telling how to do a job is the first step, and should be followed by showing and illustrating. Keep a blackboard handy for such things. Your knowing the subject well, and having a clear-cut picture of it in your mind, does not mean that the group has the same picture. You must remember their conception is hazy and you must focus their picture to clear vision so that they can see each and every small detail, and

this can be done only by *showing* them how it is done and/or *illustrating* it on a blackboard.

When instructing, don't rush, but proceed slowly, completely, patiently, and only one point at a time. Make sure that your group is really learning what you are trying to put over; to make sure, question them, and if it seems like someone hasn't grasped it clearly, don't be afraid to repeat, because some time one out of the class might not get the point, but seeing that all the others have, may be backward about asking a question. The conductor can tell by the expressions on the faces and the individual's actions if the instruction has been absorbed and is clear.

In doing a job of any sort there are vital and important points which should be called to the trainee's attention. These points include: things which might make or break the job, injure the worker, make the job easier to do; special techniques; knacks, feel or tricks or special training; tidbits of trade practices which will make a full understanding of the job easier and more impressive.

Performance: The best way to yardstick the training job and find out whether the trainee has learned is to have him do the thing you just went through. At this point it should be suggested that the other members take notes of the performance of the trainee to provide them with points for discussing the manner of performance and whether it is generally agreed that the trainee actually understands and can do the job successfully. Trying out the performance doesn't have to be done after every point you show, but after every complete item you cover, give the class an examination, which can be either oral, written or by actual doing of the job or process itself, from which you can see who hasn't learned, and you can repeat the item, or the particular clause or point which has been missed. If this takes too long, you can arrange after class to get together with the one who has missed the point, and go over the entire subject with him and clear his mind on the hazy points. When you test your class, don't be afraid to ask—why, how, who, when, and where. In a teacher's testing vocabularly, these five words are the only ones he knows. Don't stop asking questions until *you* know that *they* know.

Test: This last step can be done on the job when the trainee is working under actual conditions in the mill, or at whatever his job may be. He should be informed of a nearby supervisor, instructor, or fellow-worker to whom he can go for further information if such is needed. Encourage a feeling of freedom to pursue the subject further, if desirable, and a confidence that all concerned are anxious that he be successful in his work. To be sure that a new employee forms good habits of procedures from the very beginning, he should be checked as frequently as possible to see that he follows instructions.

During the time these four points are being given to a learner, he should develop some technique in analyzing a job step by step. Some grasp these techniques readily, others slowly. During the job training instruction each group member should be asked to take some simple job—either the one used for demonstration purposes or another—and break it down into simple steps of *doing*. Opposite the doing steps, he should list the *knowing* or information points which make the doing of the job easier and more successful. Experience in these practices indicates that at first, a separation of the *doing* content from the *knowing* content is exceedingly difficult. However, after repetitive practice the group member usually gets the idea and invariably begins from this point to build much of his work on an analytical basis. This of course adds simplicity to the successful performance of any job.

War Production Can't Be Blitzed!

By James Thomas Chirurg

AFTER watching the beginnings of what were called "War Production Drives" in America, I was convinced that England's experience in the past two years could help American war manufacturers facing the same manpower and production problems which England had already met and solved.

At the invitation of the British Government and with the co-operation of the Government officials, I was able to go to England and study, at first hand, their use of the printed and spoken word to increase per-worker production. The British put at my disposal every resource for study. They welcomed the opportunity to send back to American manufacturers the factual results and the proven methods of building war-worker morale which were developed by trial and error in the hectic early days of the war.

This conclusion is to be drawn from the study made in the leading manufacturing centers of England: printed and spoken words—the right ones—can be used to increase production. England has proved it—and England today has the highest per-capita production of any of the United Nations. British war factories have used and are using internal advertising to increase production and, more important, at this state, to *keep* it there.

Four Requirements

Their experience has shown that to get results, material addressed to war workers must be: 1, truthful; 2, specific; 3, newsworthy; and 4, human.

If it fails consistently in any one of these four characteristics, it may do more harm than good.

Material which possesses these four characteristics cannot be prepared by the plant management alone or by the government alone. Both working together are needed to prepare and co-ordinate messages and appeals directed to war workers. Lacking information about military equipment and its achievements, the plant material cannot be fully effective. It cannot be fully true or newsworthy. Yet government releases of a general nature — planned without regard for the specific product, the type of workers, age, sex, etc., cannot be specific enough to impress the individual worker. Above all, government material of a general nature usually lacks human qualities.

The one safe yardstick with which to measure the probable effectiveness of any material or any program or message addressed to war workers is the yardstick of "humanics". Every effort should be made to address the worker as an individual, not to address the message to workers as a group, as "labor" as opposed to management, but as persons united together in a common cause, working together in one common effort.

Recognizing the Individual

It should be remembered that discipline, blind respect for authority has a place on the battle front when men are under fire, but on the production front one wants to stimulate men to think for themselves, and to work toward the achievement of their common goal. This means that recognition should be given, wherever possible in the program, to the importance of the worker as an individual.

What we called "War Production Drives", in American industry, have in England evolved into broad, co-ordinated educational programs, for *all* war workers,—plant, clerical, managerial—describing *what* is going on and explaining *why*. Information, rather than inspiration, is the keynote.

England has found that production should not be a subject for hysteria. Intensive effort to break production quotas sometimes defeats its own purpose and can be followed by unfavorable reactions. Straining for increased output is often followed by a let-down, or by increased accidents or absenteeism.

A well-prepared and continuous educational program, on the other hand, creates a good feeling throughout the plant because it gives the worker a clear understanding of his place in a nation at war. Production is pushed up—more slowly, it is true, than by more sensational methods—but it can be kept there more consistently and with less danger of bad after-effects.

It has been found, too, that in order for a program of this kind to be successful, there must be active employee participation of all the workers. Every opportunity to discover new ways to build up employee participation should be explored, and above all, every opportunity to give proper and public recognition for extraordinary effort on the part of the individual worker, should be taken. Both these measures are vital to the success of any program addressed to war workers.

It is evident now that production depends not alone on machines or on the supplies of raw materials available, it depends for the most part on the willingness of workers to do more than the minimum required, and that willingness depends on their mental approach to their work. Industrial efficiency or inefficiency is practically a matter of employee attitudes.

Influencing the Spirit

Therefore, more and more, the question of increasing and maintaining peak production becomes a matter of influencing men's and women's spirits—how they think and how they feel.

As the spending incentive is blocked by higher taxes, rationing, shortages of civilian goods, more and more the problem becomes one

This discussion represents an address made by James T. Chirurg (see page 84) before the Textile Society of Canada, Ritz-Carlton Hotel, Montreal, Canada, on February 27, 1943.

of recognizing and encouraging other worker incentives to take its place—the incentives of satisfaction, sacrifice, patriotism, comfort, self-respect.

If the management of war industry and those responsible for production view their problem in this light, they will then see that intensive competitive schemes or production drives between departments, can have a temporary benefit, at best. But a consistent and continuous program of information specifically directed to workers in the various plants, for the duration of the war, can build and maintain worker incentive.

The British are using many methods at the present time to build worker morale, some of which might be successfully adapted for use in American war plants. Some of these are already in use but not to the extent that they have been developed in England.

For example, it has been found that informal talks by men back from active duty, telling of their own experiences, in their own language, direct to the workers, are more effective than management tours by ordnance and procurement officials. This has been proved to everyone's satisfaction during the past two years. The Ministry of Supply has furnished speakers to over 2,000 factories during the past 15 months. Service speakers, pilots released from active duty for the purpose in some instances, are furnished by the Ministry of Aircraft Production. They tell the workers of their own experiences during flight operations.

Some Specific Methods

Visits by service speakers have had tangible results on production. Many of the firms which they have visited have reported immediate results. Firms with a high production level report that the visits of the service speakers "bring a breath of war to unbombed regions" and are still more valuable in areas which have been blitzed to show that the R.A.F. is hitting back.

Groups of workers are also sent to visit Fighter-Trainer stations of the R.A.F. The trip is made as a reward for outstanding work in cutting down scrap, absenteeism, etc. The workers, not exceeding 10 in number, are chosen on the basis

Mr. Chirurg, who prepared this interesting discussion, is the president of The James Thomas Chirurg Company, Boston . . . . .

of merit and their pay continues as it would when they are at work. They talk to their fellow workers enthusiastically about the visit for many weeks after their return and they bring back first-hand information about the base and about the product they are making in many cases.

For smaller plants, especially where it might not be practical to send actual service speakers, the Ministry of Aircraft Production makes available dramatic recordings by pilots telling of their own experiences on patrol or in combat. These are broadcast to workers, usually during meal-time, and get good response. This is but one instance of England's effective use of the public-address system in the plant morale program.

Britain has found that the right poster, in the right place, at the right time, has definitely produced results. But posters must possess the same four characteristics as all other effective material addressed to war workers, they must be specific, true, newsworthy and human.

Posters that present a particular type of plane, tank or other piece of equipment, on which the product of that particular plant is used, are very successful. A photograph of the part made in the plant is super-imposed so that the workers can identify their own work. News flashes reporting the achievements of these weapons or current action in which they took part are often shown with these posters.

Direct production increases have been attributed to the use of carefully designed and directed posters.

The workers like to be reminded that their jobs are closely related to the battle front, so map posters are popular.

To avoid "over-posterization" which dulls the interest, all posters in the plant may be taken down for a week. Then a teaser announcement about the new posters is made over the public-address system. This builds up curiosity, anticipation and fresh interest. The workers watch for the new posters and study them more intently when they are put in place.

Many outstanding results have been noted from the use of production charts or targets. But they are more successful when they are confined to one particular part of the general production program, such as the reduction of scrap, etc. They are best when they are kept simple in design and used only in short periods.

As part of the general educational program for war workers, special traveling exhibits have been set up by various Government agencies in trailers. These tour the important manufacturing centers stopping at various war plants so that the workers will have the opportunity to study the photographic exhibits and pieces of war equipment. Smaller exhibits are sometimes furnished to be set up in various departments of the plant, or in a local store to build up local pride in the accomplishments of the workers.

Films and Music

Because of the paper shortage, some factories have made use of the bulletin board to publish a plant newspaper or house organ. News of social events or personal items of interest to the workers and photographs are posted on the bulletin board. The task of arranging the board is often assigned to one worker and the job is rotated. It is considered an honor, not a chore, to be chosen to arrange the bulletin board. This gives those in charge of the program another opportunity to get active employee participation and interest in the program and to award recognition for outstanding service on the part of any one worker.

Films are used in British war

(*Continued on page* 87)

Fugitive Tinting of Textile Fibers for Identification

By Peter S. Gilchrist, Jr.

Charlotte Chemical Laboratories, Inc.

THERE HAS been an outstanding increase in the use of staple fiber in the production of yarns, not only in those mills devoted primarily to this type product, but to conventional cotton mills that are using them in conjunction with some of the natural fibers. One problem involved, particularly when such yarns are processed in blends or combinations, is that of identifying them so they may be distinguished from other yarns in processing. This has been met by the use of tints on these yarns that may be removed when the purpose of tinting has been filled. This article is a comprehensive discussion of the whole subject of tints and tinting .

THE PURPOSE of this article is to outline the problems encountered in the fugitive tinting of staple fibers. It discusses the choice of tints, methods of application, and requirements for the ideal tint.

Fugitive tints have been used for years in the woolen and silk trade. Throwsters of filament rayon yarn have been among the largest users of this means of identification. Even printworks have used sighting colors when printing undeveloped dyestuffs as a means of identifying the uncolored portions of the printed cloth. In recent years the number of new fibers that are being processed and the combination of these fibers in various fabrics has created a further demand for identifying these lots.

With the increase of these new fibers and fabrics, gray mills that have experimented with tinting have suddenly found themselves with a mill full of tinted stock. It is easily understood that a mill with no past dyeing or coloring experience should find that by merely putting a tinting solution on their white stock was not always a satisfactory answer to their identification problem. Many other problems have arisen, the principal one being the fact that all tints are not fugitive and that goods which should have been white after finishing showed up with various stains not only on the original tinted stock but also on white stock that was twisted or woven with the tinted stock.

Fugitive tinting is a specialized subject, and it can be well understood why those knowing nothing of dyeing and chemistry ran into difficulties. For instance, the same supposedly fugitive tint can be applied to four different commercial fibers. On the first fiber the only treatment necessary for removal may be cold water wash. Fiber Number Two may require warm water and soap, while Fiber Number Three requires warm water, soap, and a sodium hydrosulphite stripper. Fiber Number Four, which may show the greatest affinity for the tint, may require a full chlorine bleach for complete removal.

The Problem of Affinities

From the foregoing, it can be readily seen that the tint is not the only problem but that the affinity of the different fibers for the tint is an important factor. In other words, before tinting, a thorough knowledge of the physical and chemical characteristics of the fiber is desirable. Such questions as to whether the fiber is smooth and lustrous, or rough and porous, must be answered. A rough, open fiber will allow tinting solutions to penetrate to the core of the fiber. This coupled with any chemical affinity of the fiber for the tint will increase the difficulty in making complete removal. It is also important to know how various fibers react to solvents, such as oil, water, penetrants, etc. In some cases, the swelling of the fibers allows more tint to apply itself than is desirable.

Dulling agents on dulled fibers is another factor that bears investigation. For example, the writer took three different manufacturer's types of dulled acetate and tinted them all to the same depth of color with the same fugitive tint. When these yarns were steamed and washed, there was a wide variation in the amount of tint remaining. This test evidently showed that the different dulling agents reacted in different manners. In one case, the dulling agent actually acted as a mordant and tended to set the tint to such an extent that it was not removed. The principal types of dullers used have been titanium dioxide and barium sulphate. With the demand for titanium and barium in the war effort, it is natural that other less desirable products are being used for dulling.

The temperature used in the application of the tints is a most important factor. Tinting solutions should be applied at as low temperature as possible, because any increase in temperature tends to swell the fiber and to make the tint penetrate further toward the core of the fiber.

Temperatures and Penetrants

This point regarding temperature also brings out the question as to whether a penetrant should be used with the tinting solution. The writer believes, after extensive experiments, that penetration is not the quality desirable in tints, but rather a dispersing, or spreading, agent is what is needed. These spreading or dispersing agents should allow the full tinctorial value of the tint to be used, but should not cause the tint to enter the fiber itself.

The effect of the acidity or alkalinity of the tinting solution is also important. A number of the synthetic fibers have a very de-

cided acid or alkaline value and it is of the utmost importance to realize that this difference in value may either increase, or decrease, the affinity of the tint for the fiber.

Oil and Water Tints

The use of oil or water tints is also of special interest. Oil tints spread better than water tints. The oil also tends to condition the stock and to reduce splitting of laps on the cards, and also reduce fly and static. The oil tints have good tinctorial value; they do, however, have very poor light fastness and, therefore, the colors have a tendency to change in shade as they pass through the mill, and confusion has on occasion arisen because of this change.

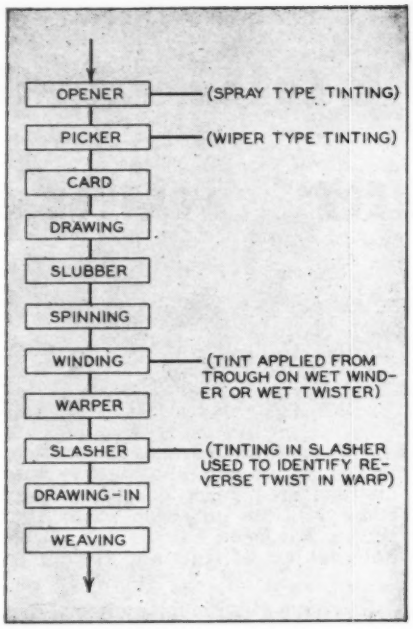
Water tints have better light fastness, but do not spread as well. The water tints also wet the stock more, and in some cases corrode the tinting applicators. The fugitivity of water tints and oil tints to washing is approximately the same.

Methods of Application

Regarding applicators, there are at present two main types of patented tinting applicators available. One is the spray type which is placed over the opening hopper and works automatically and sprays the tint only when the hopper is in operation. Both oil and water tints can be applied at this point. This type of applicator gives good distribution, but when water tints are applied they tend to over-wet the stock, and the stock must be allowed to dry before sending it to the picking and carding equipment.

The other type of applicator is located in the beater chamber of the picker and consists of a slotted pipe which allows the tinting solution to wipe on the stock as the beater blade pulls the stock across the slot in the applicator. This type of tinting is cleaner than the other, and the change from one color to another can be made more quickly as no time is lost in cleaning aprons, sidewalls, etc.

Other types of tinting equipment have been developed by individual mills. This equipment consists of sprays placed at different process points, watering



A flow chart indicating the points of application of fugitive tints . .

cans, etc. In some cases, tinting is being accomplished on wet twisters where the tinting solution is placed in the water or emulsion trough, and is picked up by a roller, and in turn, applied to yarn passing across the roller. The writer has also heard of the use of dry pigments which have been added or dusted onto the stock to offer some means of identification.

Choosing between water or oil tints and deciding on the type of applicator are comparatively minor problems when compared with the decision as to just what tints should be used on what fibers. The writer has reviewed all available literature on this subject, and finds it to be very meager. The synthetic yarn manufacturers will be glad to furnish lists of fugitive tints that can be used on their fibers. The dyestuff companies have done an excellent job in taking the mystery out of dyeing, and they are working on the problem of fugitive tints. The writer has found the dyestuff companies most co-operative in furnishing information and samples of dyestuffs which have been offered as suitable for tinting. The difficulty encountered in buying dyestuffs is in the impurities that are contained in these tinting dyestuffs which do not affect the dyestuffs when used as dyeing colors, but which do cause staining when the dyestuffs are used as tinting colors. Since the effort and cost of removing these impurities is too much, the dyestuff companies are reluctant to purify their dyestuffs because of the limited and specialized volume of dyestuffs used for tinting.

The Dyestuffs Used

The principal dyestuffs used for tinting on the synthetic fibers are the acid colors. These are usually used in water solutions, although certain types are oil or spirit soluble. Oil colors are also used on synthetic fibers. Certain direct dyestuffs can also be used. Vat and pigment colors can be used on wool.

The selection of the proper dyestuff is a highly specialized and important step in making tints. Not only must the impurities in the dyestuff be considered, but, also, concentrations, solubilities, solvents, etc. must be determined for each type used. The effect of the dyestuff upon the application equipment, carding, drawing, and spinning equipment, and even upon containers must be known. Unless a mill is prepared to do considerable test work, and has the technical force and manufacturing facilities to compound tints, the best suggestion is to buy manufactured tints from one of the reputable concerns offering these. Even after purchasing so-called fugitive tints, they should be tested adequately under local conditions, and also subjected to all subsequent after-treating operations, such as conditioning, twist setting, heating, and steaming.

The after-treatment of tinted stock is perhaps the cause of more tinting trouble than any other item in our discussion. It is common practice to set twist, condition, steam, and crab both tinted yarns and fabrics. This steaming or hot-setting operation is one of the principal reasons that otherwise fugitive tints are no longer fugitive. There are several theories as to just what is the action of heat. It may be that the heat swells the fiber and allows the tint to penetrate more toward the core of the fiber, or it may be that the heat tends to set the dyestuff on the surface of the fiber. With

dulled yarns, utmost care must be taken in the selection of tints because the dulling agent appears to increase or aggravate the setting of the tints.

Choosing tinting colors may seem very simple, but considerable confusion can be avoided by having seven distinct colors or shades. The average individual can distinguish the three primary colors —red, blue, and yellow—and the three secondary ones — purple, green, and orange. Gray also is a good tinting color. At first we may suppose that we can make variations, such as violet and wine for purple, but experience has shown that pastel shades of purple, violet, wine, all tend to look alike to the average individual. This is especially true under artificial light. It might be mentioned that more males are color blind than females; thus, men have more difficulty in judging color than the opposite sex. One of the large electrical concerns has, by using the spectrophotometer which is a color measuring device, made it possible to pick out 2,000,000 different shades or values of color, but in actual mill practice under direct and artificial light we find that we are limited to just seven colors. Even in artificial light, a yellow will tend to go white; reds to orange, and orange to yellow. Mills are overcoming the difficulty of color perception by tinting heavier shades, and also by warning workers to be on the lookout for special lots that may be tinted with a color that may appear the same under daylight as artificial light. Such lots are usually spread far apart in the production of stock as to cause as little mixing as possible.

From the foregoing paragraphs, it may appear to the reader that the writer has purposely tried to confuse him by naming all of the problems encountered. It would hardly be fair to conclude this discussion without outlining what are the most desirable qualities that should be obtainable in a fugitive tint. Below are listed these desirable qualities. It must be frankly admitted by the writer that he knows of no tints that are being manufactured either by tint manufacturers or mills, which meet all of the requirements listed below. The following list does, however, set up a standard at which to shoot in preparing or buying fugitive tints.

The Ideal Material

(1) The ideal fugitive tint should be concentrated but economical. It should be rated as fugitive by its manufacturer and should contain no impurities that will cause staining.

(2) The tint should be easily applied if purchased as a liquid and it should spread easily and not be viscous. If the tint is in the powder form, it should dissolve easily in the solvent necessary for its application, whether it be oil or water.

(3) The tint should be nontoxic to users, non-flammable in use and on the stock, and also safe in storage. It should not attack containers or settle out or stratify.

(4) Tints should not affect the application equipment such as sprays, wipers, troughs, rolls, etc. They should not affect carding, drawing or spinning equipment.

(5) Tints should not cause the stock to load up on carding equipment, or stick to drawing and draft rollers, nor should they cause static in the stock.

(6) Tints should show a minimum of bleeding at the slashers and should have little tendency to migrate to other fibers.

(7) Tints should have minimum setting or developing action when heated, steamed, conditioned, or otherwise after-treated.

(8) Tints should have good light fastness and should not change shade.

(9) Tints when applied on any commercial fibers should be easily removed without requiring special washing or scouring for accomplishing this.

War Production Can't Be Blitzed!

(*Continued from page* 84)

plants much more extensively than they have been up until now in American plants of a similar size. They are shown as part of the educational program and to provide a period of relaxation and entertainment which helps to combat the effects of monotonous work and long hours.

If Britain's experience with production in war plants is to be used as a guide—music in industry is here to stay. Music is used very generally in the factories. It has been proved that music can act as a tonic to workers, relieve boredom, increase happiness, improve health, minimize conversation during working hours, relieve the nervous strain induced by long hours, reduce absenteeism—and so increase production.

Some of these methods, as I have already indicated, are now in use on this side of the Atlantic, but not to the extent that they might be in order to reach and maintain peak production in our war factories.

On the other hand, we have some lessons to learn from England's experience with war worker production programs, which should make us look with a more critical eye at what we are now doing. We should beware the idea that posters alone, whatever the source, can solve the problem of mental attitudes. We must avoid generalities and the danger of over-posterization. These are waste. We must, above all, abandon the constant straining for new competitive incentive schemes. Intense "production drives", unless they are short and directed at one specific problem affecting production, may defeat their own purposes in the long run.

In other words, War Production can't be blitzed!

But England has proved that war industry and government and military officials working together in a program to provide continuous information to workers on the results of their efforts can increase per-worker production.

As the spending incentive is curtailed by new civilian restrictions, the need for such a program for the stimulation of war workers grows.

Winding Machines—
Work Load Calculations

By J. W. Stribling

Field Engineer, Universal Winding Company

The last in a series of four articles discussing the calculation of workloads on hand-operated winders . . .

Precision Winders

AS STATED in the first article in this series, in the January issue, the precision winder is entirely different in principle from the drum winder. It is used to wind cones or tubes of high density, permitting more yarn to be shipped in a given size case or bale. This type of winder is generally used for winding ply yarns, although single warp yarns are also wound on precision type machines. Single knitting yarns are seldom wound on precision packages, because a low density cone is more desirable from the standpoint of the knitter.

Since the precision machine operates at a constant *spindle* speed, the yarn speed is not constant but increases as the package increases in diameter. Therefore, it is not practicable for the operator to work in cycles. The yarn speed is changing all the time on each spindle, so that it is not possible to have the bobbins run out consecutively. Also, it is not practicable to doff the full packages in sets, for the same reasons.

It can readily be seen that the bobbins will be emptied at random over the operator's assignment of spindles, which means that the operator has to service each spindle as it becomes empty.

While the yarn speed is not constant, the average speed in yards per minute can easily be calculated from the spindle speed in revolutions per minute and the average diameter of the package. There is no need of going into the calculations for determining the average speed, because charts and tables can be obtained from the machinery manufacturers which will give the average yarn speed for different diameters, as illustrated by the accompanying Table A, representing a part of a table available from the Universal Winding Company.

However, perhaps a word of caution will be in order. The average yarn speed naturally varies as the outside diameter of the package varies, so that it is necessary to use the average yarn speed for each outside diameter package being wound. For example, in winding a 5-inch outside diameter tube at a spindle speed of 1,200 r.p.m. the average yarn speed will be 316 yards per minute, this being the average of the speeds at the beginning of the tube and at the finish. If the outside diameter is increased to six inches, it is obvious that the average yarn speed will be higher (367 yards per minute). Therefore, with the spindle speed being unchanged, it is necessary to change the assignments of spindles per operator to conform to the average yarn speed of the package, which in turn is determined by the outside diameter being wound.

The traversing mechanism on each spindle of a precision winder is driven directly by an individual belt from the same spindle. Therefore, the speed of the traversing mechanism depends upon the number of winds being used. For instance, with 2½ winds (two and one-half revolutions of the package to one *stroke* of the thread guide) the spindle makes 5 revolutions to each revolution of the cam, since there are *two strokes* of the thread guide to each revolution of the cam.

For all practical purposes, the limiting factor on the speed of precision winders is the maximum speed at which the cam (and traversing mechanism) can be operated without undue wear. On the Universal No. 50 winder, it is generally recognized that this maxi-

Diameter of Full Tube or Base Diameter of Full Cone	AVERAGE YARN TAKEUP SPEEDS IN YARDS PER MINUTE FOR THE FOLLOWING SPINDLE SPEEDS (For coning or ⅝" tubing)		
	900 r.p.m.	1000 r.p.m.	1200 r.p.m.
6¼"	285	317	380
6	275	306	367
5¾"	266	295	354
5½"	256	285	342
5¼	247	274	329
5	237	264	316
4¾	228	253	304
4½	218	243	291
4¼	209	232	279
4	199	222	266
3¾	190	211	254
3½	181	201	241
3¼	172	191	229
3	162	180	217
2¾	154	171	205
2½	145	161	193
2¼	136	151	181
2	127	141	169
1¾	119	132	158
1½	110	123	147

Table A

mum speed is 250 revolutions per minute, beyond which there will certainly be excessive wear, although it may not show up for months or possibly years. Therefore, it is very important to be sure that the cams on Universal No. 50 precision winders are not operated faster than 250 r.p.m.

Particular care should be exercised when the number of winds is changed to see that the speed of the cams is not increased beyond this safe limit. For instance, suppose that a mill has been operating its No. 50 precision winders at a spindle speed of 1,250 r.p.m. with 2½ winds. Since the cam makes one revolution to each five revolutions of the spindle, the cam speed in this case will be 250 r.p.m., which is safe but at the maximum. Now suppose the same mill gets orders for packages with 2 winds. If the spindle speed is kept at 1,250 r.p.m., it can readily be seen that the cam speed will be 312 r.p.m., which is considerably above the safe maximum. In such a case, the spindle speed should be reduced to a maximum of 1,000 r.p.m., which will give a cam speed of 250 r.p.m.

Conversely, if the number of winds is *increased*, the spindle speed can be safely increased. For instance, in using 3 winds the spindle speed can be safely increased to 1,500 r.p.m., although caution should be exercised in using high spindle speeds in the winding of large diameter packages, because in such cases the yarn speed at the maximum diameter of the package may be so high as to cause difficulty in properly controlling the tension on the yarn.

The elements in the operation of precision winders are exactly the same as for drum winders. However, the element times are higher, because it takes more time to service a spindle on a precision type machine. The reason is that modern drum winders are fitted with self-threading or partially self-threading tensions. On precision winders the tensions have to be threaded up by hand, this requiring more hand time.

Since the yarn speed is not constant, the method of servicing the spindles in cycles is precluded. Also, since it is not practical to have the packages fill up in sets, the method used on drum winders for winding in sets or packages cannot be used. However, the method and form used for operating drum winders at random and doffing individual packages can be used to good advantage.

PRECISION WINDING ANALYSIS

Type of Machine *Universal No. 50* Package Dimensions *6 trav. X 5 diam.*

Yarn Number	10/2	Yarn Speed (1200 rpm.)	316 Ave. YPM.
Bobbins per Pound	1.78	Bobbin Runs, Ave. Mins.	7.47 (A)
Yards per Bobbin	2360	Bobbins per Tube	4.45
Est. End Breakage	5 %	Pounds per "	2.5

(1) 100 bobbins changed x .20 Min. = 20.00 Mins.
5 breaks tied x .15 " = .75 "
22.5 Tubes changed x .20 " = 4.50 "
Total for 100 bobbins = 25.25 Mins. (B)

AVERAGE SERVICE TIME PER BOBBIN = $\frac{25.25 \text{ Mins. (B)}}{100}$ = .2525 Min. (C)

(2) SPINDLES PER OPERATOR:

Running time per bobbin (A) = 7.47 Min. per Bbn.
Idle time per bobbin:
Changing bobbin (.5 + .20 Min.)
Tie breaks (.5 + .15 Min.) x 5 % = .03 " " "
Change package (.20 Min. / 4.45 Bbns. per Package) = .04 " " "
Total Time per Bobbin = 8.24 Mins.

Total Time 8.24 Mins. / Service Time .2525 Min. (C) = 33 Spindles per Operator (Use 36 = 6 gangs)

(3) BOBBINS PER OPERATOR PER HOUR:

Allowance for cleaning 5 %
Fatigue 15 %
Total Allowance 20 %

60 Mins. x 80 % / .2525 Min. (C) = 190 Bobbins.

(4) POUNDS PER OPERATOR PER HOUR:

190 Bbns. per Operator per Hour / 1.78 Bbns. per Pound = 106.7 Pounds

(5) PIECE RATE PER *Box*:

40 ¢ per Hr. x 1.15 x 64 Bbns. per Box / 190 Bbns. per Operator per Hour = 15.5 ¢ per Box

(6) MACHINE EFFICIENCY:

190 Bbns. per Op. per Hr. x 787 Mins. (A) / 36 Spindles x 60 Mins. per Hour = 69.2 %

Date _____ By *JMS*

Form 4

The example and form shown as Form 4 are submitted to illustrate the method of calculating the production per operator on precision winders and the number of spindles she should tend to turn off that production.

In Section 1 of Form 4, it will be observed that the element times are higher than those used for drum winding. As was explained, this is because it takes more time to service a spindle on a precision winder. However, contrary to the case of drum winding, the same element times are not applicable to all yarns wound on precision winders. These times will vary according to whether the knots are tied by hand or with hand knotters, and the element time for changing packages will vary as to whether the packages are gauged by hand or by an automatic attachment on the winder spindle. Consequently, no attempt should be made to use the element times given in the example on precision winding for all types of yarns and packages nor for all types of precision winders. The only solution is for time studies to be made in the individual mill to determine the element times to be used for the conditions prevailing in that mill. With the element times determined, the form given can be safely used for almost all problems on precision winders.

(This concludes a series of four articles by Mr. Stribling.)

ABSENTEEISM—a Problem of Industrial Relations

By W. M. McLaurine

Secretary-Treasurer, American Cotton Manufacturers Association

IN THIS DAY of busy demands, man-hours lost from industry has been a serious problem. The man-hours lost come from accidents and absenteeism. Since we have discussed the importance of safety in a previous article, we shall here deal only with the problem of absenteeism.

Absenteeism means staying away from work, with or without a justifiable reason or cause. There is nothing new in its manifestation, it has always been a privileged practice of workers. In peace-time, with a plenteous supply of labor, the problem has been given some study, under the consideration of labor turnover or the extra supply of help that must be readily available.

Today, when the demand for labor is so great, it is quite a problem. The percentage of absenteeism in industry has jumped from a prewar 2 to 3 per cent to more than 6 per cent, resulting in a 15 per cent loss in war production in 1942.

There are many types of absenteeism but all may be grouped under three heads, — unavoidable, preventable, and inexcusable. News Week, March 8, 1943, in discussing these types defines them thus:

Unavoidable: There is not much that can be done about this type of absenteeism. It runs around 2 per cent of total work hours. It is caused largely by serious sickness and accidents. A part can be alleviated by improved diet, more regular hours, etc. By age groups of both sexes, the rate of absence increases sharply among older employees. Many new workers in higher age brackets can't stand the physical strain of high-speed war work, and as a result are frequently absent with sickness or to "rest up".

Preventable: The second category is usually involuntary, but remedies can be found for the conditions which cause it. It includes minor illness and preventable accidents, poor housing, and overcrowded or inadequate transportation facilities, fatigue caused by excessive work hours, job shopping, and restlessness of workers, and failure to keep materials and products moving steadily to assure maximum use of all workers.

Inexcusable: Accounting for a large proportion of all absenteeism, this is the type that made Congress mad. Failure to impress workers with a sense of their individual responsibility in wartime, inadequate supervision, labor hoarding, and labor holidays, hang-overs, and the general slackness of "war prosperity"—these are some of the causes that Washington agrees can and must be eliminated.

The unavoidable absenteeism has no definite solution other than a more careful employment policy, a better training policy, and a more careful placement policy. It would seem that such remedies might judiciously be employed to overcome this type. In the rush for production, careful training and placement are often overlooked. We might hang onto this discussion, that a more careful and active supervision is needed in times of stress than in normal times.

A study of the preventable absenteeism as outlined suggests the remedies. Many of these causes are physical and curable. Their listing indicates a failure on the part of some one to remove or remedy the causes. These causes lead very directly to inadequate supervision. It may be that the reason for this inadequate supervision is not willful or negligent but caused by ignorance. A careful study of this paragraph indicates causes that destroy morale and loyalty. Such conditions cause bad mental states and indifference. In such conditions, many grievances can arise and grievances unsettled or removed destroy all of those fine qualities of industrial relations which prevent many undesirable reactions, the chief one of which now seems to be absenteeism.

The long daily grind of a never-ending production demand produces ennui and mental inertia rather easily. Monotony under the most favorable circumstances produces mental and physical boredom. Supervisors must continually supply incentives to overcome these. Monotony under adverse conditions can easily produce a desire to stay out and seek some recreation.

Now, we step into what is called "inexcusable absenteeism." A careful reading of the types under this heading reverts the causes again to supervisory and operating policies.

A failure to impress workers

THIS IS the sixth in a new series in "Cotton" by Mr. McLaurine. The first appeared in the November issue, the second in the December issue, the third in the January issue, the fourth in the February issue and the fifth in the March issue. Previously, we had presented 12 articles by him directed mainly to plant executives and supervision, as to various phases of public and industrial relations.

The present series is intended to provide, for the operating executive, information which it is hoped will be useful for transmitting to the employees of the plant.

Reprints of previous articles in either series are available . . .

with a sense of their individual responsibilities in war-time is one of lack of proper supervision and education. It rests with the supervisor to supply the education and the incentives necessary to develop this sense of obligation. The task is not simply a production problem, but a patriotic duty to turn out production for a definite and unselfish purpose.

The second type causing ex-excusable absenteeism is listed definitely as inadequate supervision. It is stated as a fact. The other excuses indicate it by inference.

The handling of labor induces labor turn-over, absenteeism and other undesirable reactions. Idleness or job irregularity are destructive influences. Labor holidays outlined by the stabilization director, and others included in the contracts of organized labor, are disruptive because a breach or cooling-off period lessens morale and slows down production even after it begins again. They are abnormal breaks in the normal work week and produce abnormal conditions.

It may be that "war prosperity" and a lack of immediate things for which to spend money causes some absenteeism. It occurs to us that if the workers are properly indoctrinated with the idea of thrift and thoroughly understand what the purchase or war bonds and stamps means, they will desire to invest their extra savings in these efforts and will appreciate what their final values will be when the hectic days of reconstruction come.

The problems of absenteeism are varied and difficult and rest powerfully on the laps of management and supervision for their solution. The old idea of "pass a law" may seem good to some but it is nothing like the panacea of intelligent management.

Ever See Your Third Shift?

Done into a Story by Ye Editor Himself

ONE OF the many problems of the third shift, which most mills are operating nowadays, is the practical difficulty of providing it with adequate supervision and oversight. Logically, the third shift usually catches the "green" help and the new ones—and it is difficult for the regular departmental supervision to give it the attention it demands. Overseers and second hands, as well as superintendents, are able pretty well to maintain direct supervision over the first two shifts, but all too often, it is feared, the third shift is relatively neglected.

We were thinking about this problem recently, and on a visit with a friend who manages a large group of mills we asked him what, if anything, he and his men were doing about it.

"I'm glad you asked me," was his reply, "because that very thing is something that has been giving us some concern. You may not know it, but we fellows around here have an informal practice of visiting around the mill gates and entrances at shift time, especially at the 10:00 P.M. shift change. This lets us have a few minutes' visit with a few of the retiring workers, and also with those who come in for the third shift.

"A few months ago, we decided that it would be beneficial to the mills if we, the directing management and operating executives, made a visit for about an hour in each of the mills, the visit to begin not before 11:00 P.M. This would give the foreman a chance to have his shift-changing problems ironed out and the mill be in its routine for the night. The idea was to visit one mill a night. This was a little hard, for due to some of the distances we had to travel, we didn't get home some mornings until after 2:00 o'clock.

"I suggested the plan, not with any idea of making the trip myself, but these sharp-minded associates of mine over here brought up the idea that it would be nice if I went along with them, and since I am not so sharp-minded, I couldn't think of an excuse to lay out—so I went along.

"You realize, of course, that we didn't make the trip with the idea of seeing what our production was, because we have a production realization report on each shift, and these reports, together with our pick and hank clocks, let us know what the production of the mill is, without having to go into the mill for determining the state of this factor. So we only went just to, you might say, look about.

"You know, housekeeping has been one of our prides, and we found on these visits, in some instances, a right sad neglect of this feature, which let us know that in order to keep a mill clean, you have got to work at it all the running time of the mill. And I am under the impression that it is better to have good, clean working conditions on the third shift than it is on the first or second, because the operatives on this shift are more or less already tired and will react to bad working conditions more so than operatives on the more desirable shifts. Especially do I think this feature of management applies to the care of toilets, and we found particularly that the housekeeping in our toilets needed attention.

"We found the spinning running nicely in all cases—the ends up, the thread boards run out, the roving creeled—and the spinners chatting at the ends of the frames, a large percentage of which were stopped waiting on doffing; and the doffers were sweating and struggling.

"And, boy, if you haven't seen a discouraging sight lately, and crave to see one, just watch an inexperienced doffer taking off full bobbins and putting on empty ones; and the sight gets worse when the doffer has completed the change and started up the frame and the ends all come down. Boy, that is a mess,

Hot Soup Served on the Third Shift

● Avondale Mills in Alabama operate traveling soup kitchens like this one in all of their mills. The kitchen is sent through the mill at 1:00 A.M., on the third shift. The workers understand clearly that the giving of this soup, while it is without cost to them, is to be paid for by renewed effort and a build-up from fatigue, thus creating greater efficiency and a higher percentage of production. The girls who carry the soup through the mills are selected because of their general attractiveness and friendliness and ability to meet and visit with people . . . . . .

especially if it is 12:00 o'clock at night.

"This point is interesting, because I know that most mills figure that they have their mill running if they have enough spinners to operate the spinning frames, but it is apparent that it is no use for a spinner to be on the job if the spinning frames are stopped, waiting for doffing. So, when you lay out your night work, the bottle-neck should be the capability of the doffers to keep the frames running.

"Another main point to me is that we discovered a lot of young girls and young boys working on this shift. These were, of course, inexperienced operatives, and it didn't seem to me that they were as thoroughly aware that they were in a responsible working position as are the older employees. You can see that this lack of a sense of responsibility in these youths presents a moral question that must be answered correctly by responsible management.

"Our trips were made through the mills carefully and slowly. Each cross-alley was traveled by each official. And without making any 'to do' about it, each operative was met and shaken hands with, or at least bowed to. This gave the officials an opportunity to introduce themselves to the workers and let us all have the mutual benefit of seeing and recognizing each other."

It strikes us that our friend has developed a program that is well worthy of the consideration of anyone operating a third shift, and therefore faced with the problems it has produced.

We mentioned this conversation to our OLD-TIMER, and he impertinently dug up a copy of the September 1941 issue of COTTON, and showed us where he had covered the same subject in detail, in a conversation with JIM. We have just re-read it, and will be glad to send a copy of it to any reader who cannot put his hands on that particular issue.

Rayon Shipments Increase in February

February domestic shipments of rayon yarn and staple fiber registered an increase over January, according to records compiled by the *Rayon Organon*, published by the Textile Economics Bureau, Inc., 10 East 40th St., New York City.

Shipments for February totaled 51,200,000 pounds as compared with 50,600,000 pounds in January, and 47,300,000 pounds in February 1942. Of this February total, rayon filament yarn comprised 38,700,000 pounds and rayon staple fiber 12,500,000 pounds.

For the first two months ended February 28, domestic shipments of rayon yarn and staple fiber amounted to 101,800,000 pounds as compared with 101,000,000 pounds in the corresponding 1942 period.

Stocks of rayon filament held by producers on February 28 totaled 7,400,000 pounds as compared with 8,900,000 pounds reported at the end of January. Stocks of rayon staple fiber in the hands of producers at the close of February totaled 2,500,000 pounds as compared with 3,000,000 pounds on January 31.

Report on Cork Supply

Reserve supplies of cork now on hand in this country are more than double those on hand when mandatory priority control was placed in effect in June 1941, and all restrictions on the use of corkboard insulation have been removed, the War Production Board has advised the Armstrong Cork Company, Lancaster, Pa.

WPB Order No. M-8A, as amended February 20, will permit corkboard to be used, without priority, for textile mill roof insulation, for the insulation of air-conditioning equipment, and all other non-war purposes previously banned under the mandatory priority control system. The company points out that this development indicates that the danger of a cork shortage is past and that there is an ample supply of cork available for the manufacture of cork cots and all other cork products needed by the textile industry.

The new order does not end the allocation system but monthly allocations of cork appear to be adequate for all military and civilian needs for insulation as well as a variety of other needs. The relaxation of restrictions on the use of cork was made possible because of the unusually large stockpile of cork in reserve and because of increased shipments arriving regularly from the Mediterranean area.

When the government placed cork under mandatory priority control, there was no immediate shortage of cork but it was deemed important to cut non-essential usage until a stockpile was created to assure meeting future demands for war production and other essential uses. Since that time, the Armstrong Cork Company has used cork in large quantities for the manufacture of cork cots and other products needed in essential textile industries, food processing industries, shipbuildgrounds, sub-zero test rooms, arsenals, ing, forts, camps, barracks, proving powder plants, plants producing synthetic fibers, synthetic rubber, aviation gasoline and lubricating oils, etc.

CURRENT TEXTILE TOPICS

First Essential, Yet Guinea Pig

"IN POUNDS, in dollar value, and in diversity of military use, there is no basic raw material used by the Quartermaster Corps which ranks with cotton." The words of Col. Robert T. Stevens, chief of the textile and clothing branch, procurement division, Quartermaster General's Office, at the New York Cotton Exchange national cotton conference forum are significant of the place of cotton (and its products) as a prime essential in the war program.

Yet in the second year of United States participation in the World War, the cotton manufacturing industry so far has been torn between the effort to do everything possible toward victory and an endeavor to meet various problems or obstructions created by governmental agencies. There has been even the suggestion of reprisal action because mill men have strongly opposed re-negotiation of contracts.

Cotton mills have not tried to gouge the public or make excessive profits. Inflation in the long run is realized to be a losing proposition. As stated by the New York *Journal of Commerce*, however, the textile industry has been the guinea pig for government experimentation for years. Cited is the fact that it had Code No. 1 under NRA and had a great number of the earliest OPA ceilings.

Not Taking Re-negotiation Measures Lying Down

As of mid-March the cotton manufacturing industry was taking a definite stand against what it considered an unsound and even punitive program by the administrative agencies. Efforts were being made to invoke the aid of Congress, since it appeared that OPA intended through reduction of price ceilings to effect thereby an indirect re-negotiation of contracts, civilian as well as governmental.

Conditions, on the contrary, were more logically for advanced ceilings. Although opposed to inflation, mill men naturally figured that OPA at all times should allow for rising costs. In this connection, it was cited that the unobstructed advance of raw cotton was narrowing profit margins to the point of discouraging production of yarns and cloth in many mills.

Thus in seeking support from Congress for modification of OPA policy, mill men cited that the war program itself was being threatened. By assuming authority for limiting profits, moreover, the OPA was held to be going beyond the intent of checking inflation for which it was organized.

Re-negotiation, meantime, was not only inimical to the war program but of doubtful value to the government financing. The enthusiasm of the re-negotiation agency apparently was not shared by the Treasury. Duplication of collecting costs appeared to minimize the value of re-negotiation when considering the adverse effect upon manufacturing and upon normal tax revenue.

Still a Co-operative Industry in War

Again quoting Colonel Stevens: "How the cotton textile industry has co-operated from that period (summer of 1940) up to the present time is well known to and keenly appreciated by top procurement officers of the War Department." Whether co-operation can be maintained and the big production program sustained seems to depend upon practical measures by government agencies, in place of experimental actions. This program is paramount, but co-operation is two-sided.

By order of WPB, the cotton-textile industry in March was obligated to simplify construction of a specified list of fabrics, under which it was figured that output of the looms affected would be increased 10 per cent and over-all production two per cent. The order was accepted agreeably as to production, but mill executives were anxious to know whether OPA would assure new ceilings in line with what had prevailed.

In addition, the whole textile industry was asked by WPB to go voluntarily on a 48-hour weekly schedule of production, with three shifts wherever possible. It was estimated that such a program if general would effect an increase in production of 1,000,000,000 yards of goods. It was stated by a WPB official before mid-March that numerous mills reported planning new schedules to increase production.

Need for Continued Vast Output Plain

Staggering demands for cotton goods have kept plainly in the forefront the need for maintenance of vast production. The tightening of market supplies for domestic civilian trade is forecast to continue for some months. For example, war and lend-lease orders on a large scale indicate production for civilian lines sharply below the recent rate of sales to consumers.

Coming into the second quarter of the year, it was difficult to ascertain anything definite on lend-lease, war-aid, Red Cross and similar agency demands. It was noted, however, that Congress had allowed $100,000,000 for war-aid civilian supplies of clothing and textiles in countries that had been conquered.

Cognizance also was taken of the growing size of the armed forces as a factor in military purchases, together with prospects of increase in the number of men in combat areas where the disappearance of goods is heaviest. These things were taken into consideration against the suggestion that procurement would not be as large this year as last. The buying program, forecast for April and May, accordingly will determine very largely the prospects for the rest of the year.

"E" Awards to Textile and Allied Plants

Textile manufacturing firms that were awarded the Army-Navy "E" for excellence in war production during March, in addition to those previously reported were:

Brookside Mills, Knoxville, Tenn. (March 11).

Arlington Mills, Lawrence, Mass. (March 11).

Exposition Cotton Mills Co., Atlanta, Ga. (March 16).

The Trion Co., Trion, Ga. (March 18).

Newnan Cotton Mills, Newnan, Ga. (March 20).

Mills Mill No. 1, Greenville, S. C.; Mills Mill No. 2, Woodruff, S. C.; and Fairforest Finishing Co., Spartanburg, S. C. (March 27).

During March, it was announced that the award would be made to the Tallassee Mills Division, Mount-Vernon Woodberry Mills, Inc., Tallassee, Ala., in April.

Among the companies serving the textile mills that received the award in March were:

Philadelphia Textile Finishers, Inc., Philadelphia, Pa. (March 9).

Saco-Lowell Shops, Biddeford, Maine. (March 16).

Fidelity Machine Co., Philadelphia, Pa., received the award on February 20.

Textile Machine Works, Reading, Pa., was recently granted the three-star Army-Navy "E", the first industrial firm in America to win the third six-months star.

New England Mill Situation

STATISTICS of cotton consumption in New England are significant of the manpower problem, since the wartime peak of mills in this region was reached in the first quarter of 1942. The decline of the past year is serious, in view of unrelenting demand for war, lend-lease and civilian goods. Yet the government plan of a 48-hour week appears hardly to be the solution in this area.

There is a complicated situation in New England, by reason of adjustments to new goods wanted by the government and the local restrictions on mill operation. Many mills have been running shifts around 44 hours a week. Even if the help could be arranged for operating 48 hours, there would be a mechanical difficulty. For carding equipment—hardly adequate to the heavier military demands—has been kept at capacity to meet the present schedules and cannot be readily increased under the restrictions of the day.

Special laws on work, meantime, make compulsory a lunch period of three-quarters of an hour or 1½ hours for three shifts. Thus 48 hours could be realized only on a seven-day week and this runs into a law requiring one day off in seven. The compulsory lunch period is reduced for the present to half an hour, which only partially relieves the situation.

Even more important, say authorities, is the requirement of paying time and a half after 40 hours. The industry has been running on schedules which largely avoided time and a half pay. The OPA, moreover, has set ceilings which do not allow mills of this area to operate on many of the fabrics made here on schedules which would require any appreciable time and a half hours.

Profit Position Already Strained

Even without material time and a half production, mills have been facing conditions that tended to make operations unprofitable. Some government contractors for goods have been reported in this district to be apprehensive of getting required yarns because spinners did not want orders and yet the WPB call for larger production and expectations of a new military procurement program, together with lend-lease and civilian goods, have pointed the need for expansion rather than contraction.

Production has undoubtedly felt the effect of a squeeze in margins as ceilings have held unchanged on yarns and prices for raw cotton have risen with other costs. Not only have operators of the marginal or high-cost plants withdrawn from the market except where they owned cotton at favorable prices, but some of the larger and more economical units are said to have been refusing unprofitable business.

Checked Koda taffeta woven with Eastman acetate rayon gives fresh new appeal to the dressmaker bathing suit. The fabric is a smooth-textured, yarn-dyed weave from Kemper; combined here with a white rayon sharkskin midriff, and repeated at neckline, sleeves and pockets of the sharkskin beach coat. Courtesy, Tennessee Eastman Corp. ... ...

Meantime, it was reported at mid-March that the Quartermaster Corps had a plan under way for many fine combed goods in the second half of 1943. Some mills have been well behind on Army goods to date and the outlook for meeting new demands appeared rather dubious. It has seemed to mill men that efforts of government agencies—Manpower Commission, WPB and OPA should somehow be co-ordinated to give the industry support in its efforts toward serving the war cause.

Cotton Consumption in Further Decline

Of a prominent group of five mills in Maine, three showed production yardage decreases for the year 1942, compared with 1941. One decrease was small, but York Manufacturing fell from 33,365,620 to 27,807,398 yards and Edwards Manufacturing from 44,476,-199 to 35,395,334 yards. With a high rate of Federal taxation, the OPA and re-negotiation agency can stand in the way of the Treasury by a short-sighted policy on control of prices and profits.

Latest figures of the government on cotton consumption, covering February, reflect further the several influences detrimental to production of New England mills. The total of the month for this district was 92,318 bales, against 95,957 bales in January and 108,027 bales in February of last year. This left the total for seven months to the end of February at 691,604 bales, against 750,710 bales for the same part of the previous season.

Analysis of figures on cotton spindle activity show that the fourth quarter of 1942 was the lowest of such a period since the first three months of 1941. The number of active hours for October-December was 5,437,900,000. January-March, 1941, showed 5,436,686,-000. For the first quarter of 1942, a peak of 5,997,334,000 hours had been reached.

That first quarter of 1942 really marked the highest level of sustained activity, but on a monthly basis the peak goes back to October, 1941. We said in February that October 1941 consumption of 119,387 bales of cotton marked a nominal peak. Spindle activity of 2,100,794,000 hours, however, establishes that pre-war month as the high. January, 1942, was next highest at 2,085,000,000. In contrast, the year 1943 started off at a sharply lower rate. The January spindle activity was only a little above 1,702,000,000 hours.

Obituary

T. C. ("Red") Davis, of Gastonia, N. C., 36, for 13 years a starch, gum and dextrine representative of Stein, Hall & Co., Inc., at its southern branch in Charlotte, N. C., died in the Charlotte Hospital on March 1 from an ear infection.

Herbert G. Beede, 73, president of Pantex Pressing Machine Co., Inc., Central Falls, R. I., and formerly head of the Fales & Jenks Machine Co., Pawtucket, R. I., passed away in Brattleboro, Vt.

Charles T. Main, 87, president of the textile and construction engineering firm bearing his name, died on March 6 at his home in Winchester, Massachusetts.

Fred Hodgson, 68, president and treasurer, Somersworth Textile Co., Somersworth, N. H., died in Worcester, Mass., in February.

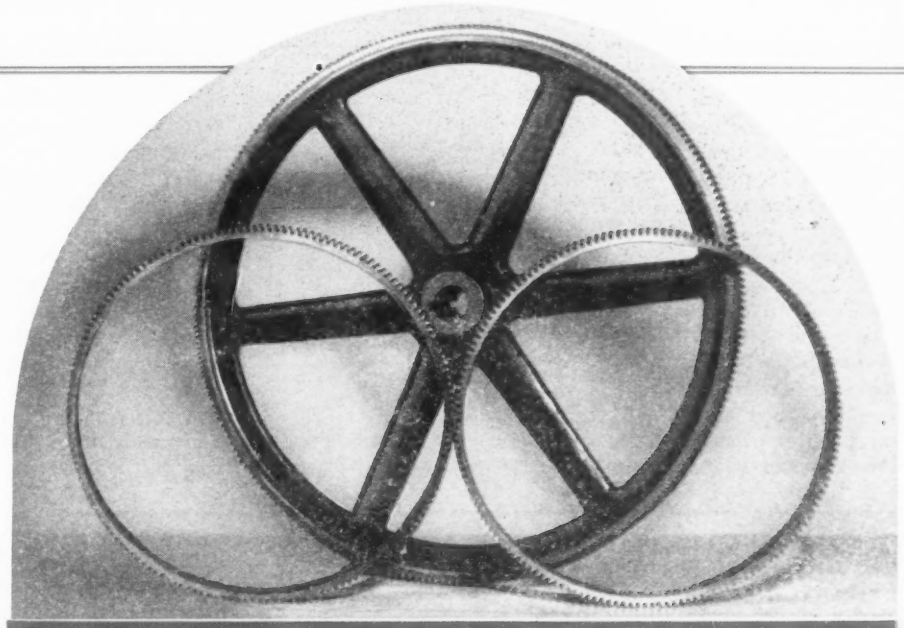
Edward L. Shaw, 68, president of United Elastic Corp., East Hampton, Mass., died suddenly in Nokomis, Fla., recently.

Joseph Henderson, 55, of Davis & Furber Machine Co., North Andover, Mass., passed away in February.

Lawrence Burnett, vice-president of Ashland Textile Co., New York City, died on February 26.

New Teeth Make An Old Gear

BETTER THAN NEW



Steel gear rings, mounted and unmounted. The ring in use is on a large double gear for a Haskell and Dawes machine. This gear cost about $40; the mill saved 30%-40% by repairing it.

Steel gear rings for loom friction gears are a practical repair device used widely now in the interest of wartime economy. They are proving so thoroughly satisfactory that they'll probably go right on saving time and money for mills after the war is over.

When the teeth wear or break off of the big friction gear on the loom, you simply turn the broken teeth off and shrink on one of these steel rings. This gives a sound gear with steel instead of the original cast iron teeth. A friction gear is expensive and heavy, and you can often save as much as 50% by giving it a new set of steel teeth.

You are invited to write for complete information on this and other wartime developments.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

"THE SITUATION" as Seen Across an Executive's Desk

March 18, 1943

The Control Increases

THE NATION must keep its eyes and ears open to conditions now prevailing. Government controls constantly extend their activities in scope and in detail. Too often the theory clashes with the actuality. The new price program on women's hose and related articles is complex, confusing and destructive of values in many instances.

Its highly involved and technical nature, so difficult to comprehend, would be comical if it were not so serious. A control of one thing necessitates the control of another and so the disease spreads widely. This may be necessary for a war program but all must watch that these controls do not become integrated into our social and economic life.

The founding fathers set up a democracy in America and now this has passed into a bureaucracy. The right of suffrage is not the sole test of democracy. Freedom in thinking and acting; freedom in arriving at conclusions; freedom to change; and many of those other ideals known abstractly as the American way of life must not be lost. These are the real tests of democracy.

While we patriotically adhere to government rules and regulations, it must not be forgotten that they are only expedients in a critical time. As soon as possible we must discard our top heavy bureaucracy and live again under the real import of the stars and stripes.

Captain Eddie Rickenbacker says: "Once you put a boy in a foxhole, he is on his own. Once you drop a parachute trooper behind the enemy's lines, he is on his own. The youth in the cockpit of a fighter, in a tank, on a commando raid, is always on his own. The 'rugged individualist,' as a political symbol, may have few friends, but God help us if we can't re-create him on the battlefield and the factory floor." The nation that does not have rugged individualism on its side will lose the war.

More Like America

Prentiss Brown's order ending police enforcement of the pleasure driving ban in the eastern and southern states and announcement of application of the "honor" system may not be the "tough" attitude which some think necessary, but it seems more like America than some of the reports of activities of enforcement officers.

Even the humblest character tends to thrive under the encouragement of being given credit for decent qualities. How much more so a proud and independent people in their personal affairs.

Mr. Brown's remarks indicate that the government is getting around to the policy that the hard common sense of the average men has always dictated—give the people what gas they can be spared and leave it to their discretion how to use it.

A Profit Formula

There have been reports of a determination on the part of OPA to adopt a profit formula limiting profits to 6 per cent of invested capital. For the purpose of demonstrating the effect such a profit formula would have on national income, the Cotton-Textile Institute obtained from 25 cotton mills, whose financial reports are made public, the figures that bring out actual taxes paid in 1942 and what they would pay if profits were limited to 6 per cent of capital. A summarization of these reports follows:

Piedmont Section of AATCC Meets

The first 1943 meeting of the Piedmont section of the American Association of Textile Chemists and Colorists was held in Greenville, S. C., at the Poinsett Hotel, on Saturday evening, March 6. Lieut.-Colonel Thomas D. Lewis, officer in charge of duck, webbing, and thread of the procurement division, Jeffersonville Quartermaster Depot, discussed the overall picture of dyeing and finishing of such materials as they concern the Jeffersonville Depot. Elmer C. Bertolet, senior technologist of the Engineering Division of the Jeffersonville Depot, discussed in a most comprehensive manner the finishing of army ducks with particular reference to mildew-proofing.

Approximately 240 members and guests attended. C. Norris Rabold, chairman of the section and chief chemist at the Union Bleachery, Greenville, presided. Members from the following sections were guests: Northern New England, Rhode Island, New York, Philadelphia, South Central and Southeastern. The Southeastern section, with 14 visiting members, had the largest delegation of guests.

The next meeting of the Piedmont Section will be held in Greensboro, N. C., on June 5; with the third and final meeting of the year scheduled for Charlotte, N. C., on October 30.

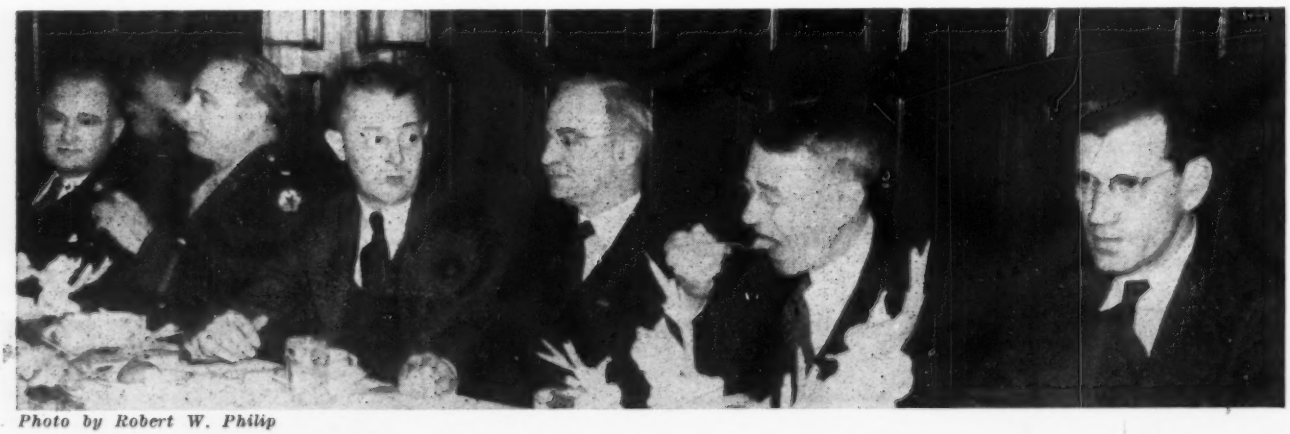


Photo by Robert W. Philip

At the head table at Greenville. Left to right, **Thomas R. Smith**, of Wiscassett Mills Co., president of AATCC; **Lt.-Col. Thomas D. Lewis**, of Jeffersonville Quartermaster Depot; **C. Norris Rabold**, of Union Bleachery, chairman of the Piedmont section; **Elmer C. Bertolet**, of Jeffersonville; **P. J. Wood**, of Royce Chemical Co., past-president, AATCC; and **Henry B. Dixon**, of May Hosiery Mills, vice-chairman of the Piedmont section

STOUT YARNS FOR WEAR, COMFORT and UNIFORMITY ON LAND OR SEA

Good socks, good underwear, require good yarn—well and uniformly spun from selected staple. This foundation for wear and comfort is basic with Standard's manufacturing policy and extends to all its yarns for whatever purpose and use.

War has called for some new and currently special purpose yarns which will ultimately have a place in your post-war civilian products.

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SPEED VICTORY—BUY WAR BONDS

This summarization represents the dollar sales. Federal taxes and profits based upon reports from 25 cotton-textile corporations:

Net sales during tax year 1942	$417,190,939
Total Federal taxes	35,527,248
Net profit after taxes	16,386,330

Many of these reports covered fiscal years for which the taxes were computed partly under the 1941 Act and partly under the 1942 Act. For purposes of comparison, adjustments have been made so that all of the taxes would be based upon the 1942 Act:

Net sales during the tax year 1942	$417,190,939
Total Federal taxes	38,054,426
Net profit after taxes	13,859,152

If price ceilings had been effective that restricted profits before taxes to 6 per cent of the capital investment, and the taxes were computed under the 1942 Act, the following result would be expected:

Net sales during the year	$375,949,140
Total Federal taxes	4,268,714
Net profit after taxes	6,499,071

In addition to Federal taxes, there are income taxes assessed by several states. As a part of this survey, the following data was obtained:

State Income Taxes as of 1942	$1,144,551
Under the 6 per cent profit limit they would be	266,944

Overtime—48-Hour Workweek

The National War Labor Board states, as to employers who extend their workweek to 48 hours pursuant to the 48-hour workweek order, as well as those already on 48-hour workweek, that:

(1) Employees, not entitled to overtime pay by law, contract or employer's practice, *may* be paid straight time for hours in excess of 40 per week without WLB approval; and payment in excess of straight time rates must be approved by WLB.

(2) Where it has been employer's practice to pay overtime, though not required by law or contract, employer *may* continue to pay such overtime without WLB approval.

(3) Employees covered by any law or contract requiring overtime *must* be paid such overtime, but WLB approval thereof need not be secured.

The Importance of War Bonds

Now that income taxes are out of the way, the ever-present subject of war bonds steps back into the picture with its necessitious demands.

The purchase of war bonds is valuable in that it produces savings and thrift; it prevents inflation; it helps furnish the money to carry on the war effort.

The continuing need for participation in this work does not require any elaborate explanation. For the sake of those who feel that often war bonds are bought only for policy sake and then soon cashed in, we submit the following facts, compiled by the war saving staff of the Treasury department of our Government.

1. Sale of Series E, F, and G Bonds:
   In January 1943 ..... $1,260,000,000
   In December 1942 1,014,000,000
   In January 1942 1,060,000,000
2. Sales of Series E. bonds only:
   In January 1943 ..... $ 830,000,000
   In December 1942 726,000,000
   In January 1942 667,000,000
3. Sales of War Bonds from Pearl Harbor to February 1, 1943:
   Series E., F. and G. ... $11,000,000,000
   Series E. only 7,000,000,000
4. Total redemptions of all Series E, F, and G. bonds issued through December 1942 ..... 2.22%
5. Total redemptions of Series E. Bonds only through December 1942 ..... 3.09%
6. Total redemptions in month of December 1942 of all bonds outstanding in that month..... .42%
7. Total redemptions in month of December 1942 of Series E. bonds outstanding in that month..... .63%
8. Total individual bonds sold to date 150,000,000
9. Number of individual Americans or their agents who have bought bonds 50,000,000
10. Total number of firms in the United States having Pay Roll Savings Plans as of Jan. 31, 1943 172,000
11. Total number of firms in the United States that have reached the coveted goal as of Jan. 31, 1943 47,000
12. Percentage of firms with Pay Roll Savings Plans:
    Firms with 5,000 employees or more 99%
    Firms with 500 to 4,999 employees. 98%
    Firms with 100 to 499 employees.. 88%
    Firms (all) with 100 or more employees 90%
13. Number of workers buying War Bonds regularly out of pay roll allotments:
    December 1941 700,000
    January 1943 24,000,000
    Increase ..... 35 times
14. Amount of money invested in Series E. Bonds by workers:
    December 1941 ..... $ 5,000,000
    December 1942 400,000,000
    Increase ..... 80 times
15. Estimated number of workers not yet on Pay Roll savings.. 12,000,000
16. Percentage of deductions from pay checks by the 24,000,000 workers who are buying bonds 8½%

Cotton Market vs. Price Control

Apathy in the cotton market, induced by confusion surrounding the problem of price control, is likely to persist until the various legislative proposals now pending in Congress have been disposed of, C. T. Revere, cotton market analyst, says in one of his recent cotton letters.

The Bankhead bill, prohibiting the deduction of benefit and soil conservation payments from parity in arriving at price ceilings for farm products, has already passed the Senate, and the Steagall bill, its counterpart in the lower house, is awaiting action by the rules committee so that it may be brought up for consideration on the floor of the house. This latter bill, Mr. Revere says, stands a good chance of early passage.

Two other important bills are the Pace bill, providing for the inclusion of all farm labor costs in computing parity, and the Brown bill, a similar but not identical measure. The latter bill differs from the Pace bill, Mr. Revere points out, in that it proposes revision of parity for the purpose of price fixing but not for the calculation of loan schedules.

"By the enactment of the Brown bill revising parity prices upward to include labor costs, but not applying to loans and parity payments, we should have a situation calling for two parity prices, one including farm labor costs which would be applicable to the ceiling and handled by OPA, and the present parity price, subject to revision monthly, which would be under the supervision of the Department of Agriculture. According to current accepted theory, the inclusion of labor costs should raise the parity price of cotton to about 22 cents, and acceptance of the Brown proposal would suggest a minimum ceiling a trifle above 22 cents, with a loan or floor at 90 per cent of parity, or approximately 17½ cents, based on present parity which alone governs the loan level."

Advisory Panels on Questionnaires

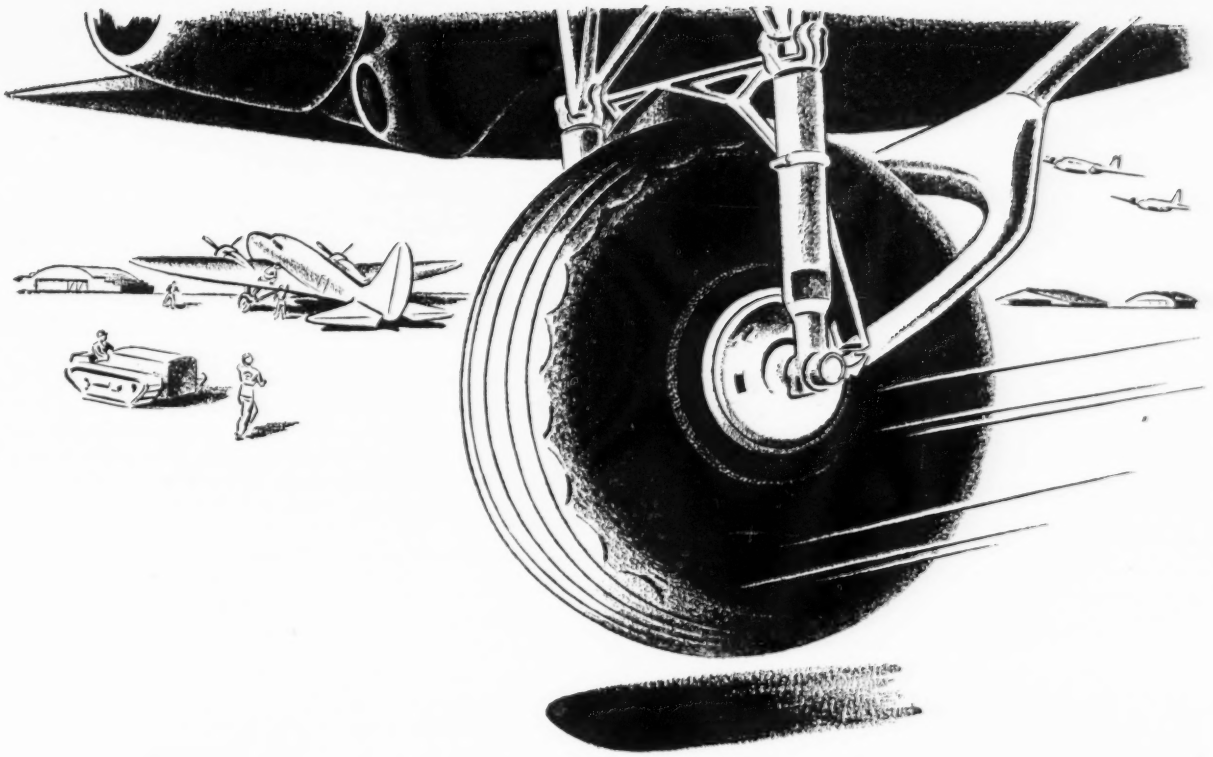
Creation of advisory panels to work with the Bureau of the Budget in the matter of Government questionnaires in the textile industry is reported making progress, which is a hopeful sign for mill men and others who have been submrged in paper work of this sort. These panels are to be drawn from different branches of the industry, and will have the opportunity to pass on all questionnaire forms sent out by the Government and affecting them, excepting those of a few agencies such as the Bureau of Internal Revenue. Inquiries of this sort, from war-time price, production, procurement and other agencies have been a source of complaint from manufacturers and others, as they necessitate additions to office personnel and add to manpower difficulties. Duplications in inquiries have been claimed. As has been pointed out previously, many of these questionnaires are essential to proper workings of the agencies involved, and some duplication arises from emergencies of one sort or another, but a field for simplification exists. Different branches of the industry are being asked to supply men who are familiar from experience with Government questionnaires, so that the most effective streamlining of these can be realized.

National Trends

The workweek, the labor market, selective service, essential industries, production and critical areas are all becoming interwoven into a theoretical relationship.

Price control, profit control and the control of inflation are also interwoven.

Re-negotiations to kill taxes and the



Rayon Tire Cords Stand Up in Shock Landings

Huge air transports loaded with men and supplies must have tires that can "take it."

Tire cords made from high-tenacity rayon yarn are used on cargo planes and bombers to take the shock of high-speed landings and take-offs.

Rayon cords provide the strength and resiliency needed for tires on jeeps, trucks and motorized artillery. Tires run cooler, give longer mileage and require less of our limited supply of rubber.

The Butterworth Organization has developed and is now building high-tenacity rayon spinning machinery. We will continue to give our best efforts to increasing rayon production for war use.

Butterworth Machines play their part in the battle of production at every step in the Wet End of Textile Finishing—bleaching, boiling-out, drying, calendering, dyeing.

The cooperation of Butterworth Engineers is freely offered to every mill seeking to achieve increased productive efficiency... or to repair or replace worn-out or obsolete equipment.

All of our facilities not required for Ordnance production are available to help you solve your problems. Let our experience serve you now.

H. W. BUTTERWORTH & SONS CO.
Phila., Pa. Serving the Textile Industry since 1820
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***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY

search for greater taxes seem to be at cross purposes. There is too little understanding in the principle of coordination.

There seem to be two philosophies at work in the government. One of these philosophies is for civilian control and the other is for military control of purchases and expenditures. There may be two other trends in evidence to some people. One is by those people who want to do the necessary job to win the war and then let the American citizens free themselves from the shackles of Federal control and pick up in earnest the problems of national and international reconstruction. The other trend is that of the reformers who want to be sure that when the war is over, this nation will have become a socialized state and the principles of democracy will have become only history.

There are too many people directing our national affairs who have only urban and college experience. They have not been indoctrinated with the philosophies of the cross-roads of this far flung nation of varied people and environments. This nation naturally invites democracy and ultimately it will have it. The revolt against bureaucracy is slowly rising.

Rationing and Gardening

So far, at the present time, aside from rubber and gas, most people are thinking of food rationing. As the war program progresses, food rationing becomes more of a problem in its extensions and prohibitions.

The idea is good in that it tends to give all people an equal chance in securing the necessities of life. It tends to stop hoarding and therefore has a desirable influence on inflation.

The feeding of the fighting forces and the demands of lend-lease grow constantly. The production of foodstuffs grows more critical as manpower is drawn into the armed services and into essential war jobs. Therefore, the question of food is vital to every individual person. Its possible scarcity is a threat to our subsistent standard of living. This problem demands the attention of all.

We must no longer look to the grocer or the canner or the professional truck farmer to supply our needs. Every citizen, urban and rural, must be a food producer.

In the South there are acres in plenty, anxiously awaiting some person's attention. In and around all of the mill areas and villages there are countless plots that can be converted into productive food crops. The days are long and the work day is short, so ample time is available. Every available lot or gardens should, or better *must*, be converted into food crops.

This is a patriotic effort; the food raised releases food for the army and our allies. Gardens must be made.

The Honor Roll

(See page 93.)

It is indeed noteworthy that so many textile mills have been awarded the "E" pennant by the army and the navy. These pennants dot the industry more and more as the days pass by giving evidence of national recognition of the patriotic service of the industry.

These awards are recognitions of the valiant work of the employees, their devotion to duty, their skill and their industry. They are indicative of the high type of management that directs the mills—the valiant and unselfish leadership.

The textile industry of this nation has delivered quantity and quality of products on time. No goods have delayed the armed forces in securing their necessities in so far as the textile industry has been asked to cooperate.

The supply of workers, which has been difficult and expensive to secure, has been available and ready to keep the machines turning. All people have been loyal and eager to do their part to hasten the winning of the war. The days and tasks will continue and become more arduous. Every one, workers and managers, is trying hard to try to keep the production going so that when the end comes, there will be no industrial regrets.

"The Magic of Fabric"

The cotton and rayon division of Pacific Mills, 214 Church St., New York City, has issued a new educational booklet entitled, "The Magic of Fabric", written in the lingo of the high school gang. It is being distributed to high school girls through their sewing teachers to show them that home sewing can really do something for them. It suggests artful tricks to the lassies for getting the most out of what they've got. Clever fabric selection can achieve almost supernatural feats in minimizing defects and pointing up assets of face and figure, but the ideas in this booklet are based on down-to-earth, practical truths about line, color and design.

Reaching so many young customers, the booklet backs up the selling of Pacific Factag fabrics, and emphasizes the value of the Pacific Facslip, which identifies piece goods and tells, in terms of government standards, just how the fabric will perform under varying conditions.

◆

High-Temperature Drying of Textiles

Drying of textiles at higher temperatures than had previously been thought possible is described in the March issue of *Textile Research*, the official publication of Textile Research Institute, Inc., and of The Textile Foundation. This new process is expected as a result of researches on the proper relationship of temperature, relative humidity of the heated air, and time of exposure. The results of these studies, made in connection with the drying research project of the Institute, make it possible to form some practical estimates of the limiting conditions of temperature, moisture, and time of exposure in the drying of textiles.

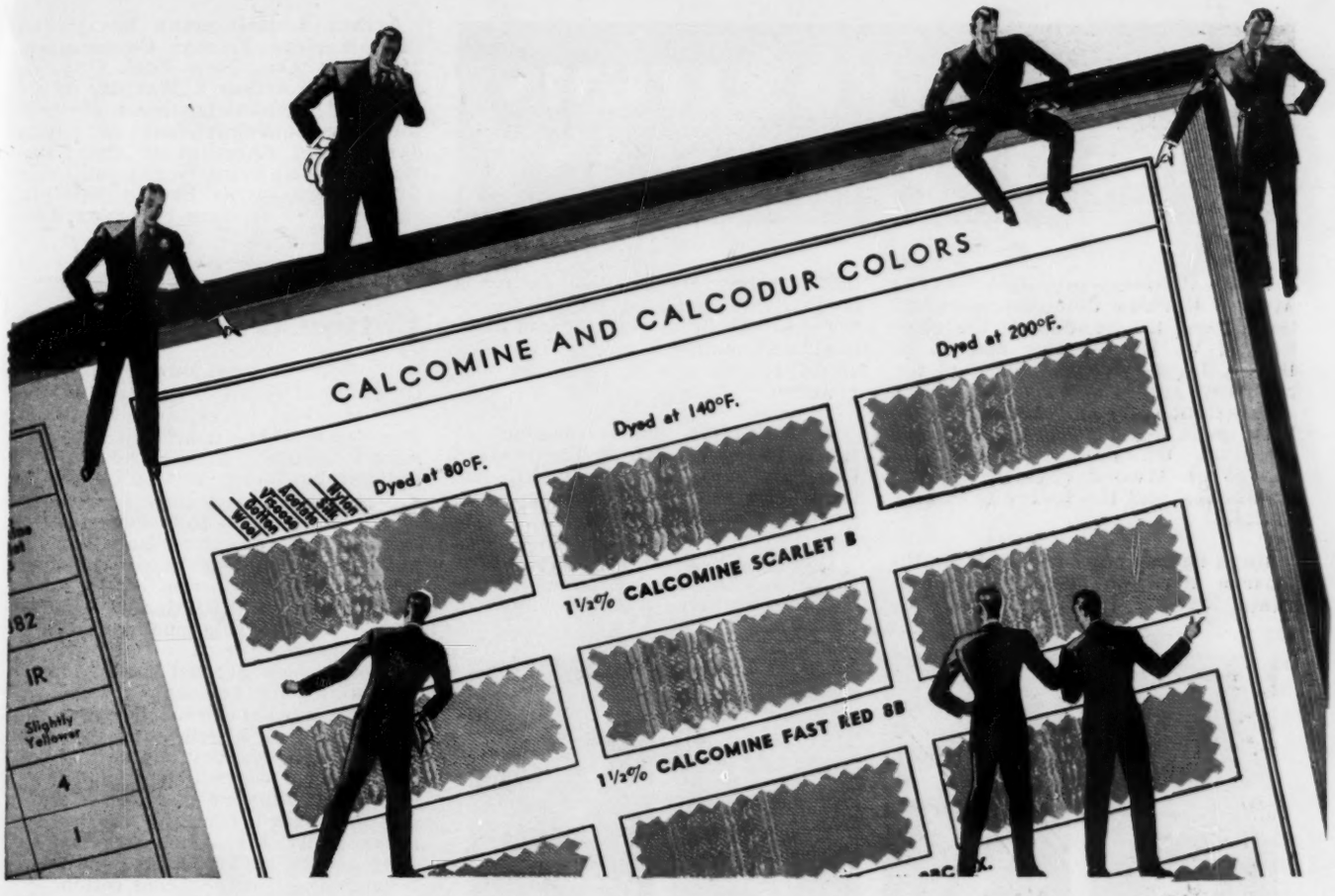
"Inside Story" of Textile Fibers

Better and stronger synthetic fibers will result from proper selection and blending of molecules, according to Prof. E. R. Schwarz, of Massachusetts Institute of Technology, in an article in the February issue of *Textile Research*, official publication of Textile Research Institute, Inc., and The Textile Foundation. The chemist has progressed rapidly in selecting suitable long, slender molecules; and the physicist is recognizing that these molecules must be properly grouped and bound together with electrical energy to prevent slippage of the molecules past one another. Studies made by means of polarized light, ultra-violet light, infrared radiation, x-ray diffraction, and electron microscope techniques are giving an ever-clearer picture of the real "inside story" of fiber structure and are pointing the way toward the synthesis of synthetic fibers to meet specific purposes.

◆

"WOW Bandanna"

Under a recent specification issued by the Ordnance Department for headgear for WOWS (Women Ordnance Workers), Ross Fabrics Co. have developed a special washable spun rayon and cotton scarf known officially as a "WOW Bandanna", which is now being made available to women workers in ordnance plants throughout the country. The scarf, 27 inches square, carries a design consisting of white Army Ordnance shell-and-flame insignia on a background of "Army Ordnance red". The spun rayon contains a blend of "Fibro" rayon staple fiber manufactured by the American Viscose Corporation. Use of headgear of this kind is being strongly recommended to eliminate the danger of women workers' hair being caught in moving parts of machinery.



What every colorist wants to know about Viscose Rayon

How will rayon's individual characteristics affect the direct dyeing of fabrics? Further, with the tremendous, war-spurred use of rayon *mixtures,* what will be their behavior in the dye-bath?

Here at Calco, our chemists have made a thorough study of the behavior of dyes on this fiber. And their findings are summarized in the newly published Calco Shade Card, "Direct Colors on Viscose Rayon."

This volume shows the exact shades of Calco direct dyes upon viscose rayon piece goods containing floaters of cotton, wool, viscose rayon, acetate rayon, silk, and nylon . . . dyed at 80°F.; 140°F.; 200°F. In addition, the study includes a detailed summary of the various fastness properties, including light, metals, perspiration, and washing.

But no single volume could encompass all your specific problems. This Calco Shade Card merely emphasizes the value of coming directly to color headquarters—Calco—with your problems. Our technical staff is always ready and anxious to serve you.

Have you a "bug" in your dyeing operations? Pass it along to your Calco representative! And if for any reason, you, as a textile executive or head of the dyehouse, have not yet received a copy of "Direct Colors on Viscose Rayon," we will be glad to see that you get one.

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TIMELY NEWS ITEMS with a TEXTILE SLANT

F. R. Hoadley, president of **The Atwood Machine Company**, Stonington, Conn., has announced the election of **W. McL. Fraser** and **H. M. Bailey, Jr.**, as vice-presidents of the company, and **L. D. Fairbrother, Jr.**, as assistant secretary. All three have been made members of the board of directors. Mr. Fraser continues in charge of Atwood engineering and production and Mr. Bailey in charge of sales.

Hugh Saussy has been made southeastern division manager of **Sylvania Electric Products, Inc.** (formerly Hygrade Sylvania Corp.) lighting division, Salem, Mass. He has been the company's sales representative in this territory for the past 18 months, and will now coordinate all lighting sales activities with headquarters at 922 William Oliver Bldg., Atlanta, Ga.

Mr. Saussy

Mr. Bailey

Mr. Fairbrother

Mr. Fraser

Samuel A. Moffitt has been appointed technician and sales representative for the **Warwick Chemical Co.**, West Warwick, R. I. For many years he has been identified with the bleaching, dyeing, finishing and printing industry, holding at various times the position of superintendent at the Amoskeag Mfg. Co., Imperial Printing and Finishing Co., and the Riverside and Dan River Cotton Mills.

Mr. Moffitt

H. W. Prentis, Jr., president of the **Armstrong Cork Co.**, Lancaster, Pa., has become a member of the business advisory council of the U. S. Department of Commerce, Washington, D. C. He joined at the invitation of **Jesse H. Jones**, secretary of commerce. Founded in 1933, the council is composed of approximately 60 business and industrial leaders of the country. Its activity today is particularly centered on the country's war program and the part business and industry are playing to speed production of essential war materials.

S. B. Taylor, works manager of the **Reliance Electric & Engineering Co.**, Cleveland, Ohio, since 1931, has been elected manufacturing vice-president of the company.

Quaker Chemical Products Corp., Conshohocken, Pa., announce the addition to their research staff of **Tulio Cordero**, formerly with United Drug Co., and **Dr. Boris Schwartz**, who received his Ph.D. degree in organic chemistry at Rutgers University last spring. **D. W. Prichard**, formerly associated with W. H. & L. D. Betz, of Philadelphia, consulting chemical engineers, has joined the company's technical sales division.

Laminated Shim Co., Inc., Glenbrook, Conn., manufacturers of Laminum shims and shim stock and An-cor-lox self-locking nuts, have announced the retirement of **Earl L. Young**, vice-president in charge of production.

L. H. Gilmer Co., Tacony, Philadelphia, Pa., belting manufacturers, have announced the appointment of **Joseph C. Jennings** as technical field manager for Texas and in charge of the Houston branch. **Richard L. Acton** is now technical field manager for Minnesota, with headquarters in Minneapolis.

W. S. ("Bill") Johnstone has recently joined the sales force of **A. B. Carter, Inc.**, Gastonia, N. C., and will represent them on Boyce weavers' knotters and travelers of all types. Mr. Johnstone has been associated in the textile industry for some time, recently having represented the National Ring Traveler Co. in North Carolina. He will represent the Carter organization in the state of South Carolina, and in Augusta, Ga.

Arthur J. Heinzmann has joined the **American Viscose Corporation**, 350 Fifth Ave., New York City, as assistant to **Arthur R. Wachter** in the "Crown" tested department. He was formerly superintendent of rayon dyeing and finishing at the Lawrence (Mass.) Print Works and prior to that was with Pacific Mills in charge of production of rayon dyeing and finishing.

A Review of the Cotton Waste Market

Boston, March 17, 1943

OUTPUT of cotton waste is still well ahead of its commercial absorption, but as this has been the case for some long time it is no longer much of a disturbing factor. If wastes were on a higher price level some sharp drop might be expected, particularly as increasing Government pressure is being put upon the cotton spinning industry for a larger production of all kinds and counts of carded and combed yarns, with correspondingly larger waste output.

Dealers here are not making much complaint over business, though the turnover is below normal. They are not increasing their supplies and as far as possible seek to maintain a normal balance between their purchases and sales. The strong situation of cotton is noted and an examination of the selling prices of its wastes indicates that all good quality materials are tending to normal accord with 22-cent cotton.

Comber stocks remain out of line and even the Sak-Egyptian comber, a by-product of highly-priced cotton, cannot be sold any higher than that which consumers are willing to pay for the domestic peeler comber which is considered a good buy for any user whether Government or civilian. At the present time comber is about 20 per cent below a normal ratio with spot cotton around 22 cents.

Dealers find that their regular customers are meeting the slightly higher market with little or no resistance. A regular business is being done in strip stocks which are moving into several consuming outlets ranging from bedding to part-waste yarn. Picker and fly continue firm though business is more spotty than at the beginning of the month. White and colored threads meet good interest from wiping waste producers who are realizing a good turnover from Government and civilian sources. Some dealers report a strongly increased interest in raw mill-run threads. The tremendous activity in a multitude of plants engaged in war production is using up wastes at a fast rate. The price trend on mill-run white and colored threads is tending upwards, which is also the case in any cop and spooler waste not earmarked for other uses.

Despite a general slack in business, waste prices are strong all down the line. Thus far this year the price tendency has been upward and while the strength in cotton has been of no particular help it has at least been of general influence on market sentiment. Not much change in values is anticipated in the near future but the market is in a very firm structure with advances more likely than declines when business begins to show a definite spring pick-up.

HERE'S THE EFFICIENCY
YOU WANT IN ROOF INSULATION . . .
and you can get it RIGHT NOW!
ASPHALT COATING
ON ALL SURFACES
CHANNEL TO ELIMINATE BLISTERS
DUE TO AIR EXPANSION
ASPHALT COATING
ON ALL EDGES

CELOTEX VAPOR-SEAL ROOF INSULATION
Has a Thermal Conductivity of Only 0.30!

MANY war industries need, now more than ever, the protection of thoroughly dependable roof insulation. And Celotex Vapor-seal Roof Insulation has conductivity of only 0.30 per inch thickness.

What's more, Celotex Vapor-seal Roof Insulation is asphalted on all surfaces and edges, and integrally treated to resist dry rot. It can't get water-soaked if it happens to be rained on while awaiting application. *And* the exclusive, patented channel on all edges provides for the equalization of trapped air and moisture, tending to reduce a common cause of roof blisters.

Use Celotex Vapor-seal Roof Insulation with Celotex Bonded Built-Up Roofs for the ideal combination. Undivided responsibility—both products backed by the world-wide quality reputation of The Celotex Corporation—is your assurance of complete satisfaction. Mail the coupon for complete information.

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Please send complete information on Celotex Vapor-seal Roof Insulation and Celotex Bonded Built-Up Roofs.

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COMMENT on the COTTON MARKET

New Orleans, La., March 16, 1943

PRICE MOVEMENTS in cotton during the past month were influenced almost entirely by developments at Washington. The daily movement was irregular as the news favored one side or the other. The trend, however, was upward owing to the prevailing belief that Congress will eventually enact legislation to revise the parity formula and also to prohibit the OPA from deducting benefit payments from parity before fixing ceilings on farm products as it has been doing for sometime. Delay in bringing the farm legislation on the floor of the House and renewed talk of a veto if the Administration cannot get a satisfactory compromise were the principal disturbing influences hanging over the market. Predictions by the head of the OPA of gradually rising prices was a sustaining influence.

The net result of developments at the national capital was to lift prices to new highs for the season with March at New Orleans going to 20.73 and all new crops selling above 20 cents. The average price for Middling 15/16-inch went to 21.23 early in March. These prices are the highest which have prevailed since 1929.

After these levels were recorded the market reacted moderately on profit taking by satisfied longs and hedges against cotton which was being carried open. This selling movement was induced largely by rumors that the CCC might release some of its stocks at the request of the OPA to mills which claim they cannot make any profit on Government orders due to the prevailing high prices for raw cotton, and rising cost of labor, and low ceilings on textiles fixed by the OPA. However, prices as this is written are but a few points under the highs of the season.

Officials of both the CCC and OPA denied that there was any foundation to the foregoing rumors. Notwithstanding these denials, the rumors persisted and some spot firms who are credited with being well informed on Washington developments were free sellers of May and good buyers of March 1944 as a straddle.

Tenders on March in both markets were small and had no apparent effect. As a matter of fact, that month made new highs in both markets while absorbing these tenders. The notices were issued by two large spot firms and stopped by a large trader as fast as issued.

Announcement by the Secretary of Agriculture that farmers can increase their planting of cotton 10 per cent over their December allotment had little or no effect because of the prevailing belief that only a moderate proportion of farmers will take advantage of this offer because of labor shortages and increased plantings of other crops. The announcement says that farmers who plant more than their allotted acreage up to an increase of 10 per cent can market the crop on this increased acreage without penalty. Private estimates issued so far indicate but little change from last year's record of 23,310,000. A prolonged drought in the West and Southwest has delayed planting in the Southwest. Recent rains, however, have improved soil conditions and planting has recently made good progress. Ex-President Hoover's prediction of an impending food shortage is apt to increase planting of food crops in the South at the expense of cotton.

The President has asked the heads of all farm bureaus to submit their views on what measures or legislation is necessary to improve farm conditions and increase production. Farm bloc leaders claim that a free market and higher prices will prove the best incentive to increased production. These leaders seem bent on legislation which will check or prevent the OPA from deducting benefit payments from parity in fixing ceilings and the fixing of ceilings under parity. The Bankhead bill to prohibit this practice has already passed the Senate. A companion bill, known as the Steagall Bill, is pending in the house. Its consideration has been blocked up to now by the rules committee. Consideration of the Pace bill, which seeks to revise the parity formula and to increase parity and the loan rate has also been prevented by the House rules committee. This committee, however, finally voted to place both these bills on the House calendar where passage is predicted as soon as they come up for a hearing. Passage by the Senate is also predicted. The heads of all farm bureaus have endorsed these bills. The Pace bill will, it is claimed, raise the cotton parity from 19.84 to about 22.50 cents a pound and the loan rate to 90 per cent of that amount.

Spot demand reported generally light but offerings are also light and merchants or spinners who need cotton are reported paying high premiums for what they get. Equities are reported bringing from $10.00 to $22.50 a bale in the Atlantic states depending upon grade. Loans reported by the CCC to March 6 total 2,631,511 compared with 2,137,534 reported to same date last year. The right to make loans ends April 30th by which time 2,800,000 bales are expected to be included. Withdrawals to same date total only 67,541 compared with 359,367 a year ago.

CENSUS REPORT OF COTTON CONSUMED AND STOCKS

Consumption of Lint — Bales—	This Season	Last Season
In United States, February	878,154	892,288
In United States, January	915,479	947,539
In United States, 7 months	6,505,910	6,283,012
In Cotton Growing States, February	761,949	757,326
In Cotton Growing States, 7 months	5,637,107	5,341,124
In New England States, February	92,318	108,027
In New England States, 7 months	691,604	750,710
In All Other States, February	23,887	26,935
In All Other States, 7 months	177,199	191,178
Mill Stocks		
In United States, February	2,528,505	2,582,393
In United States, January	2,506,639	2,497,795
In Cotton Growing States, February	2,137,547	2,099,885
In New England States, February	315,933	403,098
In All Other States, February	75,035	79,410
Warehouse Stocks		
In United States, February	12,373,508	12,100,722
In United States, January	13,069,379	12,857,476
In Cotton Growing States, February	12,700,722	11,822,141
In New England States, February	256,909	366,519
In All Other States, February	15,875	23,287
Active Cotton Spindles		
In United States, February	22,859,160	23,087,626
In United States, January	22,889,954	23,087,308
In Cotton Growing States, February	17,414,474	17,480,646
In New England States, February	4,847,502	4,954,298
In All Other States, February	597,184	652,682

New Publications of Textile Interest

Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa. "Cochrane Deaerators", a comprehensive, 36-page treatment of **tray-type deaerators, atomizing deaerators, deaerating het water generators** and cold-water deaerators. Bulletin No. 3005.

Philadelphia Gear Works, Erie Ave and G St., Philadelphia, Pa. Gear Catalog No. 42, 72 pages, including tables of dimensions for various types of gears as well as data on speed reducing units, MotoReduceRs and electric hoists; and an engineering data section.

Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill. A new illustrated Book, No. 2067, listing the sizes of cast tooth sprocket wheels available quickly from stocks carried at Link-Belt plants and warehouses, and by authorized distributors located in industrial centers.

The Swartwout Company, 18511 Euclid Ave., Cleveland, Ohio. Bulletin 217, describing the "NCM" line of roof ventilators made of non-critical materials. The various ventilator designs are patterned after the original metal Swartwout ventilators and are for use in essential applications where metal is not vitally necessary.

Cling-Surface Co., 1048 Niagara St., Buffalo, N. Y. New handbook on modern belt drives, containing complete, up-to-date information on engineering and maintenance of group drives. It explains the correct grouping of machines, proper engineering of drive components, and correct care of belts for long-term service.

Allis-Chalmers Mfg. Co., Milwaukee, Wis. Bulletin B-6211, illustrating and describing Ro-Flo compressors and pumps of the sliding vane type. A complete engineering description is supplemented by installation diagrams, curves showing the relationship between pressure, temperature and volume, photographs, and section views. Motors may be directly connected to Ro-Flo units which operate at high speeds, 1,200 or 1,800 r.p.m.

Bulletin B-6186, describing power and distribution transformers and other electrical distribution equipment, covering the use of modern welded construction and standardization of design to save vital materials in manufacturing and to provide the advantages of interchangeability in installation. The new electro-cooler for increasing transformer capacity, and unit substations which simplify power control and distribution, feeder voltage regulators, instrument and metering transformers, the oil-sealed inert gas system which protects transformer oil by isolating it from the outside air, and load-ratio-control for load regulating voltage, power factor and phase angle are discussed.

FOR EXAMPLE, HOUGHTON RESEARCH ON

RAYON PROCESSING

Rayon is holding the home front today for silk and nylon which have gone to war. ★ To fit rayon yarns for their new duties, processing must be carefully checked and revised. ★ Houghton development work has resulted in a new sizing agent (Houghto-Size) superior to glycerin for filament rayon and acetate. ★ Proven softening oils under our Raylubric brand are also widely used. ★ Ask the Houghton Man, or write to—

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TODAY—MORE THAN EVER, EXPERIENCE COUNTS!

HOUGHTON
PRODUCTS FOR THE TEXTILE INDUSTRY

NEW EQUIPMENT and MATERIALS

Automatic Valve Reverse Mechanism for Dyeing Machines

Morton Machine Works, Columbus, Ga., have developed the Morton system automatic valve reverse mechanism, for installation on beam and package dyeing machines, on which patent is pending.

This mechanism automatically reverses the four-way valve and the flow of the dye liquor on any time cycle desired, and shows the operator the direction of the flow of dye liquor whether "outside in" or "inside out", entirely eliminating the error of the human element. It can be arranged to handle one machine, or a number of machines in the same dyehouse—with one master control.

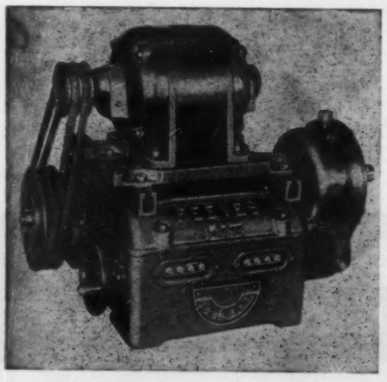
The mechanism carries with it the company's latest improved double end bearing four-way valve. The end bearings are a new feature to prevent rocking or sticking of the valve plug in the chamber, and to prevent wear, insure longer valve life and render it easy to operate. The valve, it is pointed out, may be re-seated a number of times.

This reversal mechanism can be applied on any type machine requiring a reverse flow of liquids.

◆

Combined Variable Speed Mechanism and Gear Reducer

Reeves Pulley Co., Columbus, Ind., have announced the Reeves reducer-type transmission, a drive which consists of the standard Reeves variable speed transmission with built-in speed reducer, developed to meet the requirement for accurate speed control and speed reduction combined in one compact completely enclosed unit. Less mounting space is needed to obtain the lower range of speeds which formerly required the use of auxiliary speed-reducing equipment. The reducer-type transmission is available in two enclosed designs—horizontal and vertical, which may be mounted in any convenient or desired position. Each design is available in a wide range of speeds and in capacities from 1 to 7½ hp. inclusive. The transmission in various sizes produces ratios of speed variation from 2:1 through 12:1 and the reduction gears provide ratios up to and including 6.9:1. Speed changes are effected by turning a handwheel or, if completely automatic regulation is desired, it is available by mechanical or hydraulic methods. The new transmission in either horizontal or vertical design may be equipped for individual motor drive by use of a Reeves motor base.

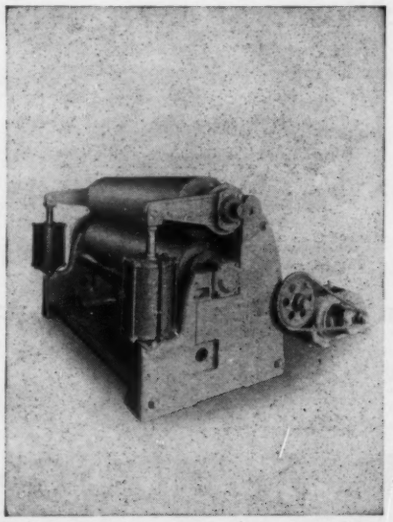


New reducer-type transmission

◆

Squeeze Roll Extractor

Riggs and Lombard, Lowell, Mass., have developed a squeeze roll extractor for obtaining continuous hydro-extraction at high speeds on all types of knitted or woven fabrics. It is applicable for range operation, as, for instance, between an acid soaking tank and a dryer. Rolls are operated with compressed air, fed into a pipe at the middle of the machine and thence distributed to both sides, so that the pressure of the rolls from side to side is automatically and permanently equalized. The top roll bearings are free-floating to eliminate binding and provide uniform extracting from side to side. The machine is regularly furnished with a hand-controlled operating valve for raising and lowering the rolls, and a reduction valve for maintaining a constant uniform pressure on the cylinders. Rolls are rubber-covered, top and bottom, and the rubber is adapted in thickness and composition to the type of work being done. Where compressed air is not available, the machine is furnished with a small automatic, motor-driven air compressor.



New squeeze roll extractor

◆

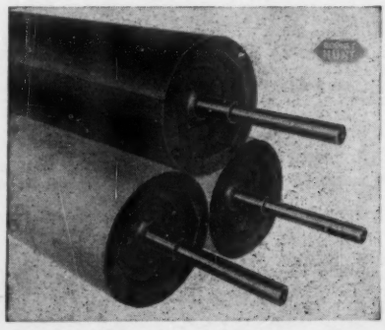
New Rayon Size

E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia, Pa., have developed Houghto-Size B, a highly concentrated product for use in both warp sizing and throwing on rayon and acetate yarns, especially applicable to fine denier yarns and for loom-finished fabrics. It is stated that solutions are neutral, non-foaming, and compatible with softening oils such as the company's Raylubric oils.

◆

New Light Weight Wood Stave Rolls

Rodney Hunt Machine Company, Orange, Mass., have developed a line of special light weight, low cost wood rolls as an improved construction to meet the special requirements of several firms. The three rolls shown in the illustration are identical except that the two lower ones are covered with a spiral-wound webbing to provide greater "pull". The usual cast-iron spiders are placed with a series of wood heads which are in turn anchored securely to the through-shaft by special, patented construction which employs a special flange designed for light weight but greater strength. This wood drum construction, for light duty carrier uses, is available in any diameter from 12-inch up.



Light weight wood stave rolls

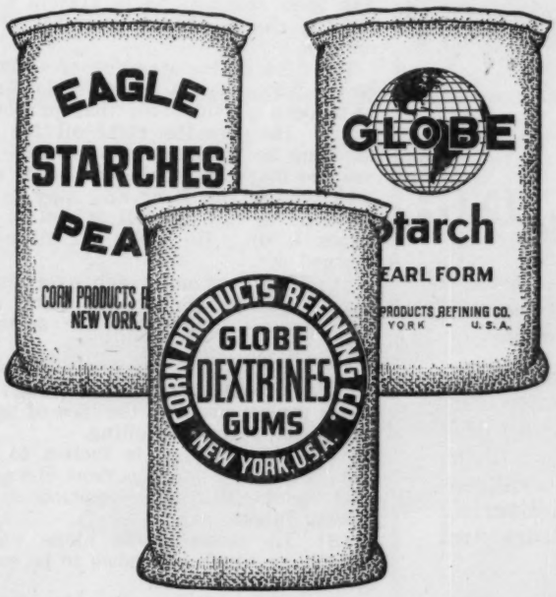
◆

Ventilators Without Critical Materials

The Swartwout Company, Cleveland, Ohio, meeting the need for roof ventilators for industrial and other buildings in the face of WPB instructions forbidding the general use of metals in roof ventilators, have developed a line of roof ventilators made of non-critical materials, named the "NCM" line, in

FOR
CLEANLINESS
UNIFORMITY
and SERVICE
USE

Corn Products Warp Sizing
AND
Finishing Starches



The uniformity, cleanliness and consistent high quality of Corn Products starches and gums are well-known to leading textile manufacturers. The technicians of Corn Products are always glad to help the manufacturer with Warp Sizing, finishing or other textile problems.

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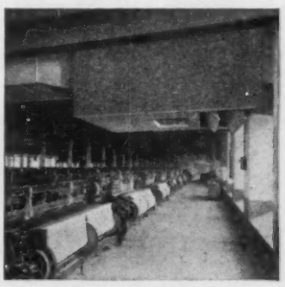
What Is Humidity For?

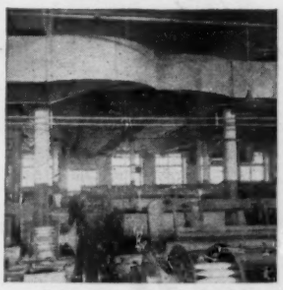
For an unsuspected purpose in textiles. And a very much better job with the help of

Certified Climate



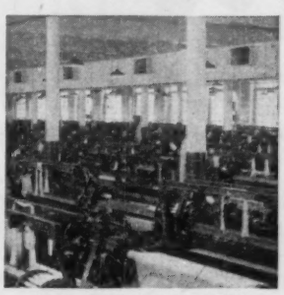
Air enters through mixing chamber

Regain higher and more dependable. Greater strength and more uniformity in numbers.



Propelled through ducts, graduated

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



Uniformity of many outlets

Fewer Ends Down. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.

Automatic shutters let heat out

Better Product from shorter, less expensive staple. And very often 2% to 3% more production.

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

which the metal used—for bracing and assembling, amounts to less than 5 per cent. Several of the new designs parallel closely the original styles made of steel and are said to be equally effective in performance.

◆

Utilizing Old Reeds

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa., have established "war emergency factory reconditioning departments", in each of their plants at Philadelphia, Greenville, Atlanta and Montreal, for the re-conditioning of reeds. These departments, separate from the regular manufacturing divisions, are manned by some of the best and most experienced reed men in the respective plants.

In this manner, the company's regular manufacturing production has not been impaired, and the individual orders covering a minor repair do not interfere with the large production schedules.

◆

Maintenance News

"Victory Production and Maintenance News", previously issued as "Victory News", by Allis-Chalmers Mfg. Co., Milwaukee, Wis., will hereafter endeavor to help industry find out how to keep its production machines running through the rest of the war.

Inviting an exchange of maintenance ideas from equipment operators, the publication carries these in addition to tips from Allis-Chalmers engineers on the proper maintenance of the hundreds of products manufactured by the company. Emphasis on the value of the war effort of intensifying maintenance is supplemented by production stories in news and pictures, pointing out new ways to increase war production. A handy index lists maintenance articles appearing currently in the leading trade papers.

◆

Safety Instructions for Oilers

WORK OF OILER: He oils or greases all bearings or places that need oil or grease on machinery under his supervision. He puts oil in all hanger bearings over his machines. He cleans all belts on machinery.

MACHINERY & SHAFTING: The safe oiler avoids injury around machinery or shafting by doing the following:

(1) He stops a machine before he attempts to oil it. He notifies the machine operator that he is oiling the machine and he locks same in an off position or places a sign "man working on machine" on same.

(2) Even though the machinery has been stopped, he is always alert for the chance that it may be set in motion.

(3) He avoids standing or walking on machines unless steps or platforms have been provided for that purpose.

(4) He uses the right oil for the machine he is oiling, and he does not use too much oil, for he knows it will leak out on the floor and may cause someone to fall. If oil is spilled, he wipes it up. He keeps all oil holes cleaned out.

(5) He does not reach over shafting or pulleys or between belts, and he does not climb over or between them.

(6) He keeps away from idle belts hanging about revolving shafting; he never grasps one with the idea of using it as a support while oiling.

(7) He knows it is foolish to try to oil too many bearings from one position; so he shifts his position so he can oil in safety.

(8) He never works alone under conditions which he knows to be extra ordinarily hazardous.

(9) He replaces all safe guards that he may have removed while oiling, for he does not want to be responsible for an accident.

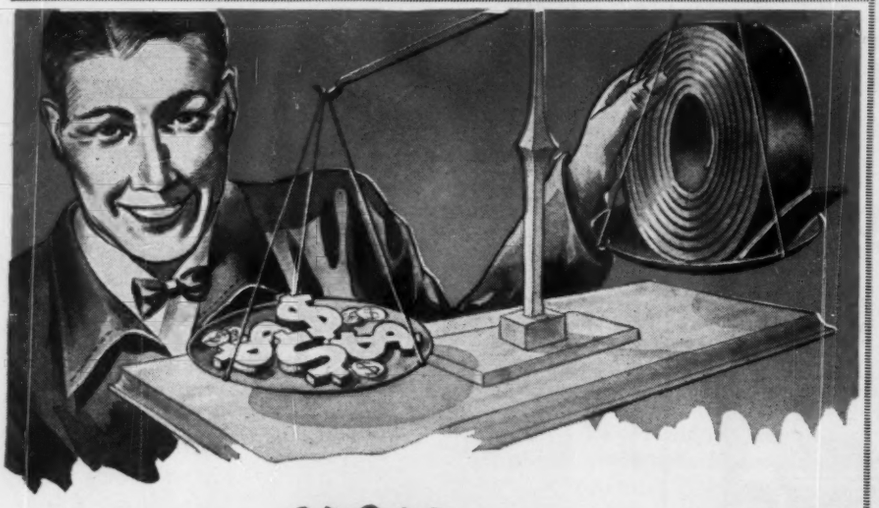
(10) He makes sure no one is in a position to get hurt before he starts any machine. He keeps his hands out of all moving machinery.

(11) If he sees anything on the floor or if he drops anything, he picks it up, for he does not want to be responsible for an accident.

(12) He is extra cautious when working around steam pipes or electric wiring.

(13) He reports all unsafe conditions, practices, and defects to his overseer or second hand.

(14) He avoids hurrying and he keeps his mind on his work, for he does not want to injure himself or others.—*"Textile Safety", National Safety Council, Inc.*



How Do *YOU* Buy Belting?

Do you pay so much a foot, and get just belting? That way is expensive, if the belting cannot stand up against abuse and "green help" and still deliver maximum performance.

The economical way to buy belting is to specify—SCHIEREN! Into every one of our belts we incorporate over 75 years of "know how." And every step in the building of a SCHIEREN BELT—from the treatment of the leather fibres . . . to the cementing together of perfectly tanned sections—is performed by our craftsmen with the purpose of delivering maximum power, under adverse conditions, for years and years of dependable service.

You can settle the belting question for yourself, permanently. Take any two similar drives. Place a SCHIEREN LEATHER BELT on one of them. The better performance and longer life of the SCHIEREN PRODUCT will convince even a skeptic. When would you like that demonstration? There is a distributor near you, or write — CHAS. A. SCHIEREN COMPANY, 39 Ferry St., New York, N. Y.—60 Front St. W., Toronto, Canada.

SCHIEREN BUXBAK BELTING TRADE MARK

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WHEN THE PRODUCTION SIGNAL CHANGES

The world of tomorrow will make new demands upon your textile plants. New fabrics, new fibers, new finishes, new methods of selling will have to be developed for the peacetime markets of the future. ★ Are you preparing for the great technological changes . . . the economic, financial, and social changes to come? ★ If you are ready to attack the problems of tomorrow right now, write to our Textiles Planning Board. For a small monthly fee, depending upon the time to be spent, we shall assign technicians to work with you on the practical details of developing new ideas for the new world that is now on its way!

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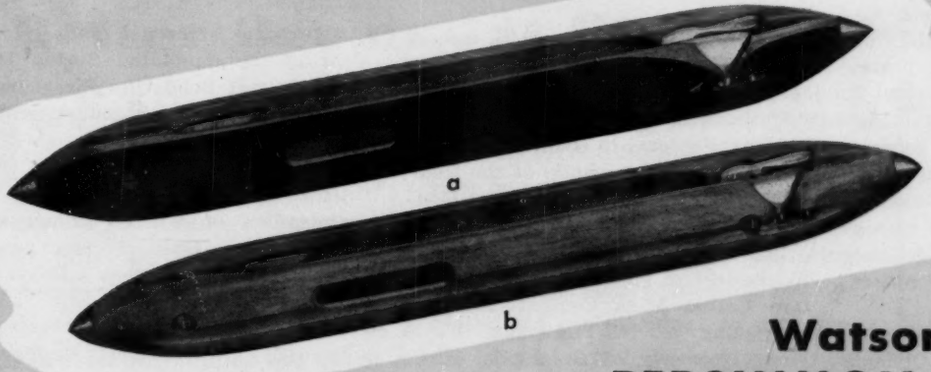

a Three sided fibre shuttle, persimmon base

b Impregnated persimmon shuttle

Watson-Williams PERSIMMON SHUTTLES are the answer to the dogwood shortage

Watson-Williams saw the dogwood shortage coming, bought the finest persimmon cut to exact specifications, then impregnated the wood or added fibre. These shuttles have now been operating for many months, under all conditions, on different fabrics, ana on various types of looms. They've passed every test with flying colors. Try both shuttles of impregnated persimmon and fibre covered persimmon.

We will fill your trial orders promptly.

WATSON-WILLIAMS MFG. CO. MILLBURY, MASS.

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NORTHERN REPRESENTATIVE: G. C. Burbank, 32 Beaconsfield Rd., Worcester, Mass.

PERSONAL NOTES
About Men You Know

W. RAY BELL has been re-elected as president of The Association of Cotton Textile Merchants of New York. SAUL F. DREIBBEN, of Cone Export & Commission Co., is vice-president; and CHARLES A. SWEET, of Wellington Sears Co., is treasurer. The executive committee, to serve with these officers, consists of WILLIAM J. GALLON, of J. P. Stevens & Co., Inc.; GERRISH H. MILLIKEN, of Deering Milliken & Co., Inc.; and FREDERIC A. WILLIAMS, of Cannon Mills, Inc.

A. B. ("ABIE") HAMMOND has been promoted to vice-president and general manager of Berryton Mills, Berryton, Ga. Mr. Hammond, a graduate of Georgia Tech, was formerly connected with the Georgia Power Co., and was later assistant superintendent, and then manager, of Berryton Mills. J. O. DENDY, formerly overseer of spinning, has been made superintendent, succeeding T. B. REYNOLDS, who is now superintendent of Oconee Textile Co., Whitehall, Ga.

WILLIAM H. COCHRANE is now superintendent of Alexander Smith & Co., Yonkers, N. Y., succeeding the late WILLIAM H. CONKLIN. Other promotions in this mill include: JOHN E. FLYNN, from manager canvas fabricating department to assistant superintendent; HARRY WILSON, from acting paymaster to paymaster; SHERMAN EWING, to assistant personnel manager; and FELIX STAEDELI, to designer succeeding JAMES C. FULTON, retired.

IRA S. PITTS, JR., has become assistant superintendent of the Olympia plant of Pacific Mills, Columbia, S. C., where GEORGE R. KAY is superintendent. Mr. Pitts for the past several years has been instructor in weaving and designing at Clemson College, of which he is a graduate, and previously had held several positions as operating executive in southern mills.

CAPTAIN HARRY C. JACKSON, on leave from his position as mechanical engineer of the Morton Machine Works, Columbus, Ga., is now on active duty with the armed forces in North Africa, after service in England. 1ST LIEUT. PEARCE E. JACKSON, textile engineer of the company until entering the service, is now somewhere in the war zone of the Pacific area.

ELMER W. NYE, who has been with the Windsor Print Works Division of Consolidated Textile Corp., has been made vice-president in charge of selling and job finishing. J. W. SCHENCK, who has been with Windsor since 1914, was also elected vice-president and will continue in charge of manufacturing and production at North Adams, Massachusetts.

DIAL F. SWEENY has been promoted from second lieutenant to first lieutenant in the Quartermaster Corps. He is adjutant of the 2nd battalion, 13th regiment, Quartermaster Replacement Training Center, Camp Lee, Va. Before entering the service, he was sales manager of the textile department of Mitchell & Smith, Inc.

OTIS E. JOHNSON, formerly assistant treasurer of the five New England Industries cotton mills at Augusta and Lewiston, Maine, is now assistant treasurer of the Verney Brunswick Mills, Inc., and will make his headquarters in the Manchester (N. H.) office of that group.

JOHN P. BAUM, who until he entered the service in 1940, was assistant manager of the Pepperell Mfg. Company, Opelika, Ala., has been promoted from lieutenant colonel to colonel. His headquarters are in the Office of the Quartermaster General, Washington, D. C.

P. P. STEPHENS has been promoted to overseer of spinning at the Exposition Cotton Mills Co., Atlanta, Ga., succeeding W. H. THOMPSON. W. E. HUNT, formerly of Greenville, S. C., has become overseer of carding succeeding J. A. MORRELL.

A. M. FEDERLINE, overseer of spinning, Beaumont Mfg. Co., Spartanburg, has been made assistant superintendent of the Granby plant of Pacific Mills, Columbia, S. C., where J. HARMON STRAIT is superintendent.

W. J. HARRISON has resigned as chemist at The Trion (Ga.) Company, to become superintendent, dyer and chemist at the Dodgeville Finishing Co., Attleboro, Mass.

ROBERT W. TWITTY has been promoted to vice-president and plant manager of the Marion Mfg. Co., Marion, N. C., where he has been superintendent for the past three years. He previously was superintendent of the Laurens (S. C.) Cotton Mill.

STUART MCRAE has resigned as assistant superintendent of the Bevelle plant of Avondale Mills, at Alexander City, Ala., to become superintendent of the Werthan Bag Corp., Nashville, Tenn., where ARTHUR S. THOMAS is general superintendent.

H. H. DILLARD has resigned as vice-president of the Baker-Cammack Hosiery Mills, Burlington, N. C., to accept a commission as captain in the Army Signal Corps. He has been assigned to the signal depot at Lexington, Ky.

GEORGE E. NICHOLS, formerly overseer of spinning at Gordon Woolen Mills, Newport, N. H., is now at the American Woolen Company's plant, Norwich, Conn., in a similar capacity.

MIKE P. HARRIS, formerly night superintendent of the Dallas Mills Division, A. D. Juilliard & Co., Dallas, Ga., is now superintendent of the Talladega (Ala.) Cotton Factory.

D. K. LUSTER, formerly manager of curtain goods sales, Kendall Mills, is now with Hathaway Mfg. Co., New Bedford, Mass., dealing largely with merchandising problems.

RICHARD J. STEFFENS, formerly president of the liquidated Boston Duck Company and Bondsville Bleachery, is now agent of the Monument Mills, Housatonic, Mass.

GEORGE A. VOSBURGH, formerly superintendent of Warren Fabrics Co., West Warren, Mass., is now general superintendent of Parsons & Baker Co., Phoenixville, Pa.

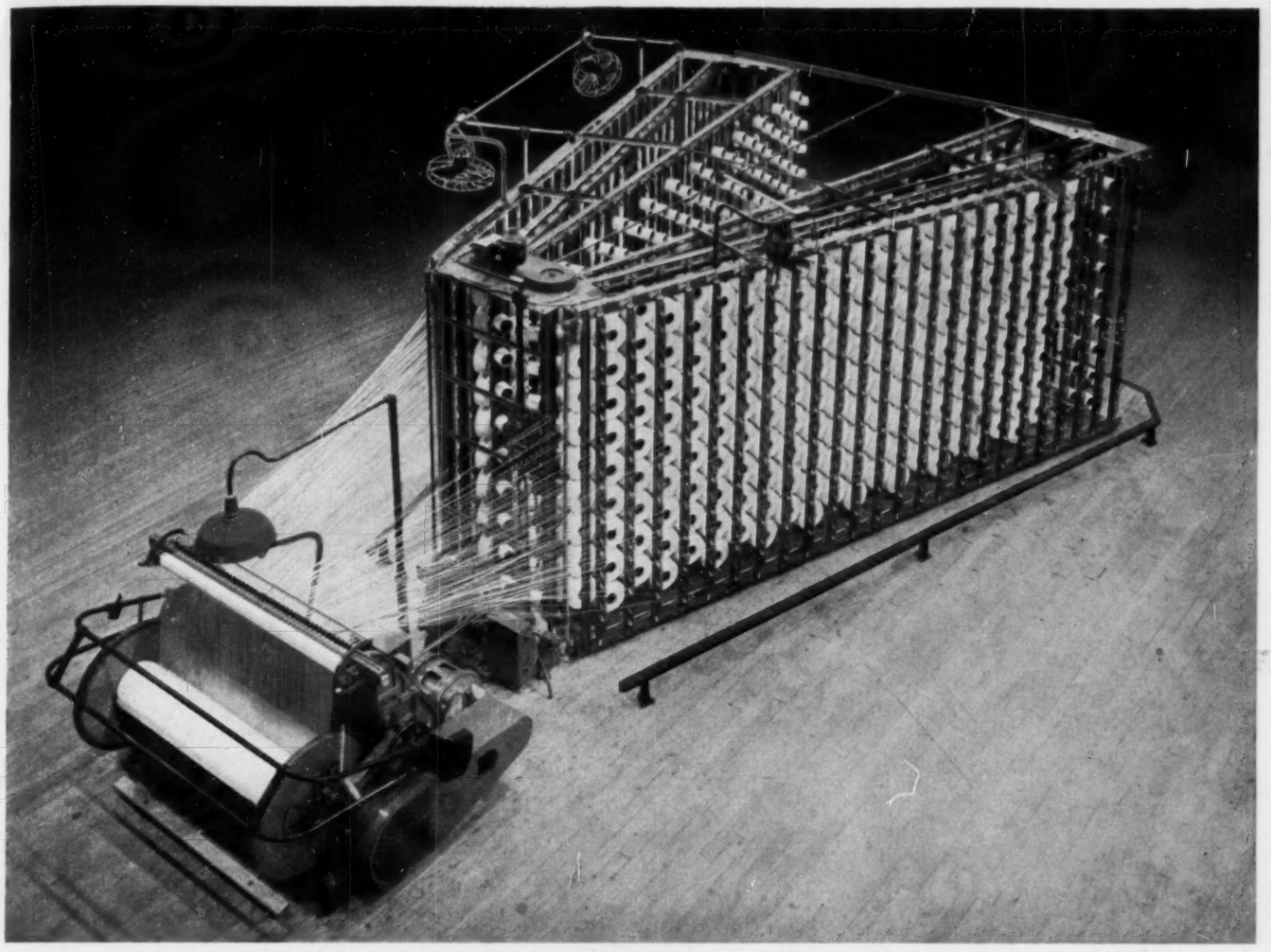
OTTO ZAMBONA, formerly designer at the Sanford (Maine) Mills, is now yarn superintendent of the Neponset Woolen Mills, Canton, Mass.

BERNARD J. O'REILLY is now overseer of carding at Strong, Hewat & Co., North Adams, Mass., succeeding THOMAS SCOTT, retired.

J. W. PERRES, formerly superintendent of Worcester Spinning Company, Cherry Valley, Mass., has joined the armed services.

GEORGE MAY, JR., is now superintendent of the Madison (Maine) Woolen Co.

(Obituary items will be found on page 94 of this issue.)



Better Beams—at Half a Mile a Minute!

THE Barber-Colman Super-Speed warper winds yarn on the beam firmly and uniformly at the rate of 900 yards a minute, which is 30.7 miles per hour — but that's only *part* of the story. Warping, of itself, does not *add* anything to the yarn, either in twist or condition but, unless it is done right, it can seriously *reduce* the yarn's natural elasticity. Because the warping adds nothing, but only puts the yarn on a proper beam for slashing or weaving, it must also be done as *economically* as possible. The Barber-Colman Super-Speed Warper meets these conditions. Elasticity of the yarn is preserved to the highest possible degree, because it is subject only to air friction. The high operating speed means high production per operator and per machine. In addition, the special creel with traverseable banks of cheese holders helps reduce change time, and a special comb and drop wires reduce creeling-in time. These and various other mechanical features all combine to insure maximum production with minimum effort.

For Example . . .

In a prominent coarse goods mill, where Barber-Colman Spoolers and Warpers are in use, the following production is obtained:

Count	9.5s
Ends on Beam	292
Yardage on Beam	18,000 yds.
Net Wgt. of Full Beam,	659 lbs.
Beams per Warper per 24-hour Day	29

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

BRYANT SERVICE

Worth Looking Into

Now, if you are through looking, it might be a good idea to take a look at your electrical equipment. If you need any repair work, Bryant Service is also worth looking into. We are equipped to repair, remodel, recondition and install any type electrical apparatus. Prompt service and quality workmanship assured.

A salute to our employees—

We are proud of the Treasury Minute Man Flag signifying that our workers are enrolled 100% in the War Savings Bonds payroll plan.

BRYANT ELECTRIC REPAIR CO., INC.

GASTONIA, NORTH CAROLINA, U. S. A.

Your Business Needs these Hospital, Operation and Death Benefits

MORE THAN EVER NOW!

"Boss, we're short more men today —Sickness!"

Your employees will adopt the protective plan quickly if you give them the opportunity. The protective plan has been in successful operation for years in hundreds of southern plants and factories. Write for detailed information.

DOCTORS AND NURSES GOING TO THE ARMY

It was estimated that by the end of last year, 35,000 nurses and 40,000 physicians and dentists would be away at war. In all probability, many thousands more of them will go to the army this year. This *increasing shortage* of medical service may mean increasing shortage of man-power in your mill or factory. Not noly may employee's personal illness increase and become chronic, *but men may have to lay off from work in order to nurse an ill wife or child.*

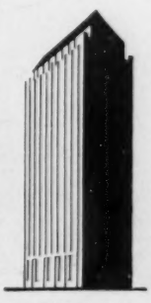
You can help prevent this with the Protective Plan. *At no expense whatever to the employer,* the Protective Plan will furnish hospitalization for employees and their family. Such provision is valuable at all times but especially in this emergency when a shortage of proper medical attention may result in an epidemic which would prove costly to you and the War effort.

Some employees may now be chronic time-losers because of some condition which could quickly and permanently be corrected by hospitalization or surgery while it is now available; and thereafter they would become steady and more efficient workers for you.

WRITE FOR FULL INFORMATION

PROTECTIVE LIFE

INSURANCE COMPANY



WILLIAM J RUSHTON
President

BIRMINGHAM
ALABAMA

TEXTILES—*Marching to War*

Eleven million men in uniform—the best clothed army in the world—fighting on a dozen fronts, from the arctic to the tropics—the biggest textile job in history.

SONOCO has an important role in this tremendous undertaking—which they consider as a direct war job—and to which they are devoting all their energies to supply textile paper carriers—enough and on time.

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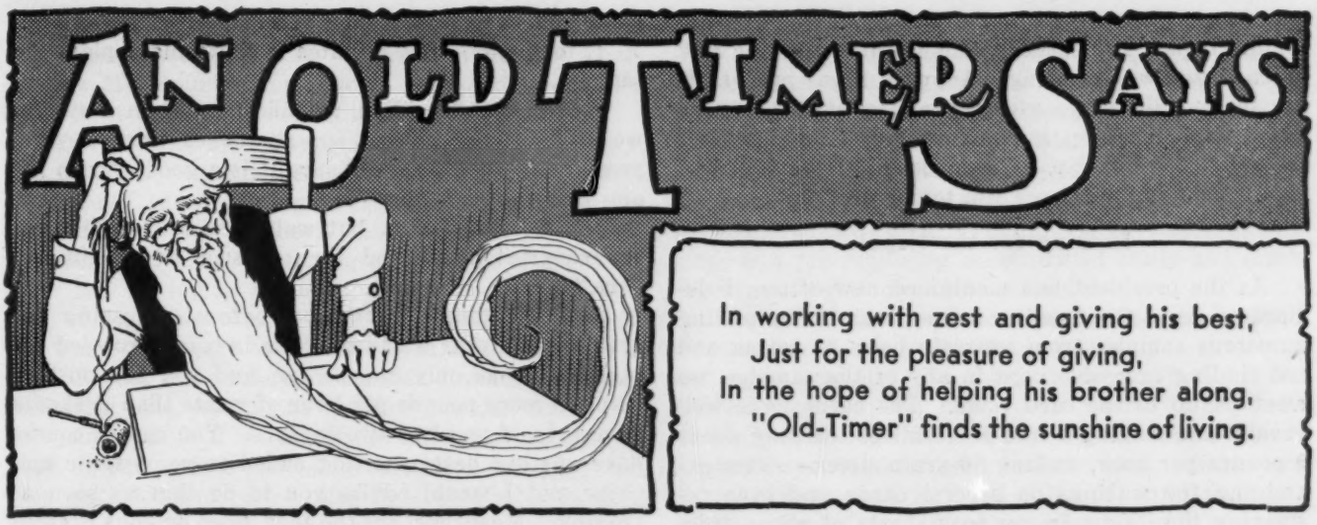
SERVES THE WORLD
PAPER CARRIERS

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

A "Communique" from Old-Timer in Florida

WELL, FELLOWS, here I am in Florida again. I stopped at Palm Beach this time because several people told me the Government had not taken over as many hotels here as at some of the other Florida places, but upon arriving here I find the Government has taken over quite a few of the best hotels and it is rumored they will soon take over several more.

Therefore, OLD-TIMER may not stay in Florida until April as he intended.

I was fortunate in finding accommodations at a beach hotel with a room right on the ocean. In fact, if JIM was here with his big cud of chewing tobacco I believe he could almost hit the ocean from our window.

I arrived late in the afternoon, and after unpacking, I sat down to write a few letters to let some of my friends know where I am and it soon grew dark enough to need a light. I switched on the desk light and in a few minutes, Bingo! A man knocked on my door saying, "Pull down that shade, Mister. The lookout in the tower out on the pier says your window looks like a head light." Then it was about time to eat, so out I went in quest of food. Everything was as black as a stack of black cats. I could not see where I was going—even the street lights are painted out except for a small slit about an inch wide to allow only enough light to show where the sidewalk is, and between lights it is so dark you can't see a step-down or a step-up. Auto lights are also painted out except for a small slit to let you see a car is coming.

Yesterday, I decided to look around a bit, and so I took a bus over to West Palm Beach and as we started across the bridge we faced a large sign: "Stop for Inspection". An officer entered the bus and people began showing cards. "Oh, my gosh," I thought, "what am I going to do? . . . What have I got to show, officer?" "Have you registered for the draft?" "Sure," I said, and pulled out my card. What a relief! They evidently don't intend for any Germans to land from U-boats and get to the mainland around here.

I have had several other surprises, some of which are almost too embarrassing to relate. For example, at one hotel: "Mr. Clerk, I am looking for accommodations until about April 1. What have you in a single room with bath?"

"We have some very nice rooms on the ocean front at $50.00."

"May I see some of them, please?"

"Certainly."

"This one is very nice, I think I'll take it. Shall I pay you the $50.00 for the first month now?"

"Sorry, Mister, the rate is $50.00 per *week*, not per month."

"Oh! I do not care for American plan, because I am so irregular about my meals. Sometimes I work until 2:00 or 3:00 o'clock at night and want to sleep the next day."

"You're wrong again, Mister. The rate is $50.00 per *week* with no meals furnished. European plan."

"Well, thank you very much," and OLD-TIMER slumped out without looking back.

Now that you have had a little laugh at OLD-TIMER'S expense, guess we had better get down to seeing if we can find something to talk about that will be of some interest to superintendents and overseers in textile plants.

JIM remarked before I left for Florida, "You lucky old geaser you—going to Florida every winter while we fellows have to stay on the job and wrestle with the grievances and other troubles." However, as a matter of fact, OLD-TIMER works pretty hard all through the hot summer months and he believes he has earned a little rest and recreation, especially golf. (Incidentally, golf greens fee here is $2.50 a day. Guess I'll have to play 36 holes a day to get my money's worth.)

Not having anything in particular in mind to talk to you about, suppose we ramble around a bit while relating some of the things we ran into in the mills we visited this summer.

Just as I was entering one mill office, the mill president was coming out. "Hey, OLD-TIMER, you're the very fellow I want to see." He showed me a piece of cloth he had in his hand and said, "Look at those 'neps'. We have just had all of our cards overhauled, put on new clothing and new flats where necessary,

and darned if I understand where all these neps are coming from. The carder seems to think it is the new green cotton we are using. Anyway, I was just starting to the mill to go over the matter with the boys again, but since you have shown up, I am dumping the job into your lap. Go on down to the mill and look things over. I'll see you tomorrow."

Looking for the Neps!

As the president had mentioned new cotton, I decided to go to the opening room first. After pulling numerous samples from separate bales of cotton and not finding excessive neps in any of the samples, we went on up to the card room. The cards were well ground and making a nice smooth web, carding about 9 pounds per hour, making 50-grain sliver. After examining the settings on several cards and even inspecting the lickers-in, we took sheets of sliver from several cards and placed them between two pieces of plain window glass for inspection. The neps were there, plenty of them.

Again we went back to the opening room and pulled samples from several bales of cotton and, as stated above, the cotton did contain some neps, as most all cotton does, but certainly not anything like the quantity which was in the web coming from the cards.

(In passing, let us state that if you will draw samples from several bales, the same as you draw samples for testing the length of staple, and place these samples between two pieces of plain glass and fasten these two pieces of glass together if you want to with a piece of adhesive paper or a piece of cloth to prevent the glass from slipping, the samples can be taken to a good light and will show up nicely.)

Well, we seemed to be stumped. We could not see anything at the cards to cause them to make neps. The cotton was not green enough to be "rolling", as some carders call it, still there seemed to be a thousand neps in the web to one nep in the cotton. While standing there in the opening room trying to think of something else to look for, we saw the waste man roll up a box of scavenger and roving waste which had been run through the waste machine making it ready to be fed back into the mixing. Without any thought about what we were doing we picked up a handful of the waste and began pulling it like sampling for length of staple—

Holy smoke! There they were, neps, millions of them! We pulled quite a few samples and secured two more pieces of glass, placed the waste samples between the glass and compared them with the samples we had pulled from the raw cotton bales. Boy, was that a relief!

But to be sure we were covering all possible sources of neps we could think of, we examined all of the waste. In looking at the waste the card stripper put back into the stock to be re-worked, we found another source of neps. It was in the small roll of cotton which rolls up on the card in the process of getting the card ready for stripping (by automatic stripper) and during stripping.

Next morning:

"Good morning, OLD-TIMER. Waiting for me, eh? You must have found something or you would not have been here waiting for me so early. What's all that glass you have under your arm?"

It took only a few minutes to show and explain the samples.

"Now, Mr. President, I'd like to explain a system we used to take care of our re-worked waste several years ago, but I am quite sure it is a good system for any mill to use today—"

"O. K., OLD-TIMER, but wait a minute until I get the superintendent and the overseer of carding in here."

Let me explain, gentlemen, before discussing our system, that your waste machine is being crowded too much. It has only one beater, and you are putting through more pounds per hour of waste than it should have even if you had two beaters. You can of course have another beater section added to your waste machine and I would advise you to do that as soon as possible. Meantime, cut the feed down on your present machine so that it will have to run all day instead of the few hours it is being run now. Your waste machine man is piling the stock onto the apron so it will only take him a couple of hours to run the quantity of waste that you should take all day to run.

Now, for the simple system we used 20 years ago. Take it or leave it, as you think best, after we discuss it.

Of course, we did not have as good opening equipment back in those days as you have now, neither did we have as good waste machines, especially waste machines for working roving waste. Nevertheless, what we found in this mill and judging from conversations we have with superintendents and overseers of carding, most mills are complaining about practically the same waste working problems that we had 20 years ago.

A Trick on Handling Waste

After a few years' experience as superintendent and listening to boss spinners complain about how the carder mixed the re-worked waste, we decided something had to be done. In fact, every time the work struck a bad streak in the spinning room the spinner would claim the carder had put too much waste in the mix. One time that claim was very true. It happened this way:

The overseer of carding was out sick for over two weeks. The second hand in the picker room was out at the same time. One day as I passed through the picker room I noticed a long row of boxes full of scavenger and cut roving waste. It had been accumulating for two weeks. We of course raised Cain with the second hand in the card room because they did not have any better system than to let such an accumulation occur. That second hand sure did get rid of all those boxes of waste in a hurry.

When that roving hit the spinning room we just about shut down. We put in all the twist it could stand, still we could not keep the ends up. Fortunately it was comparatively easy to pick out the roving because it was all full roving. We picked it out of the frames and ran it up on a few frames by putting one bobbin containing the excessive amount of waste along with one bobbin which had no waste in it.

Boy, that experience taught me a lesson and I decided that in order to prevent a re-occurrence I would

simply make a separate style of goods and put all the re-worked waste into that one style of goods. Then neither Mr. Spinner nor anyone else could lay all the trouble we had in the mill to the re-worked waste.

What I mean by a separate style of goods is simply to run all the waste, mixed with sufficient good cotton so we could run it, through a certain number of looms, spinning frames, speeders, intermediates, slubbers, drawing and cards, depending on the size of the mill. That mill having 24 slubbers, it took one slubber and part of the spindles of another slubber to take care of the waste mix, part of which was of course good cotton. We set aside a certain number of cards, drawing deliveries, etc., which ran nothing but this mix. We experimented until we found the minimum amount of good or raw cotton necessary to add to the mix, and then settled down. Card cans, fly frame bobbins, etc., which held this stock were marked to prevent its getting mixed with the regular stock. The cloth from these looms was kept separate in the cloth room and was marked 68x72 "B" or 80x80 "B" or whatever style we were putting it into. When a bale of this 80x80 "B" accumulated in the cloth room the overseer would notify me and we would look through it, and if nothing like neps or some other defect to cause it not to be up to our regular firsts showed up, we would put a cut to the bale in our regular goods. But when neps did show up in the 80x80 "B" goods we baled it separately and marked it 80x80 "B", and the mill president sold it as slightly off-grade goods. Sometimes he sold it as seconds, but not very often.

No more complaints from Mr. Boss Spinner or Mr. Boss Weaver—no more neps in our regular goods except the neps which were in the raw cotton—a little bit better breaking strength—a smoother yarn—these are only some of the advantages.

In preparing this mixing, we made laps of all waste. We of course had to run strands of slubber roving through these all-waste laps to prevent splitting as well as rig up special split lap preventors. Then we used two or three different methods to add the percentage of raw cotton. One method was to run three laps of waste with one lap of raw cotton on an old style apron picker. Another method was to run the all-waste laps through the cards and put four ends of all-waste sliver with two ends of raw cotton sliver up on the drawing. In all cases, we knew exactly what percentage of all-waste we were running. We never tried to mix re-worked waste with raw cotton, in a hopper. You simply cannot get an even mix that way. (Note: If George Lehman reads this article, he can vouch for what we have said.)

That was very clearly demonstrated to me once when I took charge of a mill making low grade coarse yarns. The mixing was 75 per cent card strips and 25 per cent of the lowest grade cotton we could buy, and they were laying the mix down behind the hoppers in the picker room and feeding directly into the hoppers. We changed that system at once. We ran all the strips separately through the pickers and cards and also ran the low grade cotton separately and did our mixing on the drawing—one end of low grade cotton, three ends of all-strips. Of course, we had to set those cards running all strips differently from the others, but our spinning production picked up so much I'll almost be afraid you would not believe it if I told you how much. The breaking strength went up. The yarn was so much improved in appearance that we began to get preference in orders from the commission house. Production broke all previous records, and incidentally, a certain fellow was given charge of two other mills in the same group of mills with the resultant increase in his monthly pay check. The mixing of waste, of any kind, is a job requiring concentrated study and much experimenting to obtain best results.

While on the subject of carding there is one method we used which we would like to explain for our readers' consideration. We thought we profited by the method, however, we have never heard of any mill which used the method although surely some superintendents and carders have had the idea. Maybe we were kidding ourselves, but I still don't think so.

We suggest that if the opportunity ever presents itself, and providing you have accurate records of waste made in your mill, try it one time to see if the effort put forth brings justifying results. Here it is:

At this particular mill, the cotton purchased at the first of the season was always very clean and white. In fact some of it would grade as high as "Fair". And sometimes a run of two months' cotton would grade "Middling Fair" and "Good Middling". This was because the mill purchased practically all of the cotton raised by the farmers located in a four- or five-mile radius of the mill, and as you know, the first cotton which opens is at the top of the plant and as the cotton plant leaves are green and do not shatter, the first picking of cotton is always of the highest grade, with practically no trash.

To see the beautiful white strips from this cotton coming from the cards and going to the waste house, seemed to me almost a crime. We finally decided to do something about it, therefore, as soon as this top crop of cotton struck us the following fall, we set our cards to take out the minimum amount of strips—in fact, we set all settings on the cards to take out the minimum amount of waste. The ends down per 1,000 spindles on spinning did not increase—neither did the amount of fly on the fly frames, drawing or spinning increase appreciably. We followed this procedure every year thereafter with a nice saving in our waste account.

We have seen so many instances where mills making print cloths could have made these savings in waste that we oftentimes wonder why the majority of mills have the same settings for cards the year around regardless of the grade of cotton being used or the style of goods being produced. For some to use very trashy cotton to make print cloths, while others use comparatively clean cotton to make the same styles of goods, but getting no higher price for their product, just does not seem consistent with good manufacturing judgment. But we are quite confident that practically none of our readers has ever changed a card setting for such a purpose as described. Always take out all of the waste you can on pickers, opening machinery and cards—that seems to be a universal rule no matter if you are using Good Middling or Low Middling cotton.

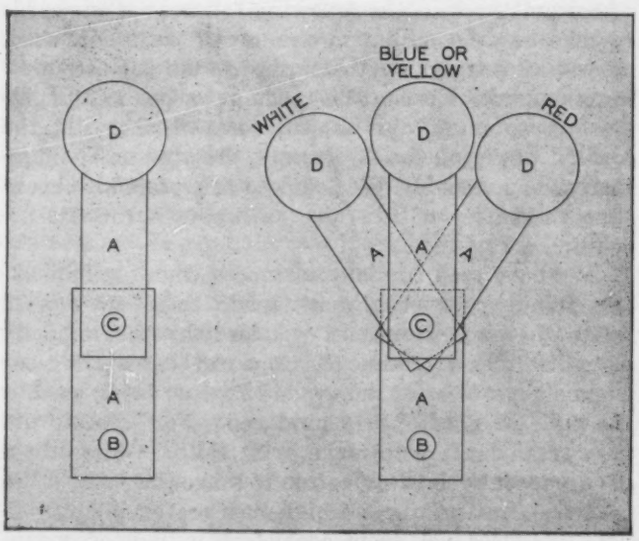
When, one day this past summer, we arrived at a mill where we had not been for some time, the super-

intendent was overflowing with enthusiasm about his new weave room—all new looms—complete new lighting (and it certainly was beautiful)—all the interior newly painted—it was a grand sight to look at as we entered the door. The looms, of course, had not been running but a few weeks which accounted for more looms being flagged for out-of-fix than usual, but as we stood there looking over the room I could not help but be impressed with the ragged appearance caused by the large number of filling bobbins stuck up on the loom arches. There were some looms with one empty filling quill with a full bobbin of filling on top of the empty one—there were others with one full quill sticking up on the arch, and still others with as many as three quills high—some of them leaning over to where they looked like the jar of the loom would topple them over any minute. All those quills on the top of the arches simply spoiled the whole looks of this beautiful room, they were so unsymmetrical in comparison to everything else.

"Well," says the superintendent, "what in heck are you frowning about? You are such a darned pessimist I suppose you already have found something to complain about. Out with it."

"Oh, nothing at all, nothing at all. Sure is a beautiful room; that is, the finest loom I think I have ever seen of that model,"—and, incidentally, we looked at a couple of little patents on the loom (now greatly improved) which had been granted OLD-TIMER when he was overseer of weaving years (yes, quite a few years) ago.

The looms were whacking it off almost as well as looms thoroughly broken in, and he explained that he was getting—(might be information to the enemy) percentage of production on three shifts and, with the four-bank stop motion, he said seconds were practically *nil*.



"a"—two strips of ordinary cotton tie or ⅛ x 1 to 1½" flat wrought iron.

"b"—⅜ to ½" hole in stand to take bolt which either holds two sections of loom arch together in case of three-piece arch, or bolt which holds tie-end holder to arch.

"c"—small bolt ¼ or ⅜" x 1" round shank, square head—threads all the way—two hexagon nuts.

"d"—round disk of galvanized iron or thin wrought iron or tin, about one and one-half times the size of a silver dollar, to be painted in different colors.

When we got back to the office he said, "Now, let's have it, OLD-TIMER. You saw something in my weave room that you did not like."

"Oh, nothing much, just a little thing, too insignificant to mention, especially as you consider me such a pessimist."

"Just a dirty crack, OLD-TIMER. I've been following you for almost 20 years and it's too late for you to turn pessimist now, and besides, constructive criticism should never be classed with pessimism."

"Well, Mr. Superintendent, you sure have a beautiful weave room and you have every right to be proud of it, but you have certainly given it a black eye by sticking all those filling quills up on the loom arches."

"Ha, Ha, Ha!, that's a good one. I thought you had once been overseer of weaving and should know we have to have some way to tell a fixer when a loom is out of fix and a way to call the smash hand where there is a break-out and a way to let the warp hand know when a warp is out and a way to let the cloth man—"

"Sure, sure, I know all about that, Mr. Superintendent, but why use such a crude method—"

"Crude method, eh? Well, show me a mill that does not use filling quills to flag looms."

"If I could take you to that mill where you said I was once overseer of weaving you would not see a filling quill or anything else sticking up on the loom arches to look ragged and mar the appearance of the room."

"And what, may I ask, did you use to flag your looms?"

"Let's go out to the shop and I'll make you one."

We secured a piece of cotton tie and a few scrap pieces of galvanized iron and proceeded as follows. (See pencil sketches herewith.)

The operation and application of the flags is obvious. The stand "a" should consist of two pieces of metal, while the top piece which holds the round disc (flag) need only be a single piece. The double piece stand with the top pieces holding the discs fitting between the two bottom or stand pieces and all held together by a small bolt with two nuts—with the tightness adjusted by the two nuts so that the top pieces holding the round discs may be adjusted sideways so that one disc or two discs or three discs may show or all discs (flags) may be turned down so that none of the flags is in the "up" position.

The combination of signals which can be made with the three flags of different colors is more than the average weave room needs.

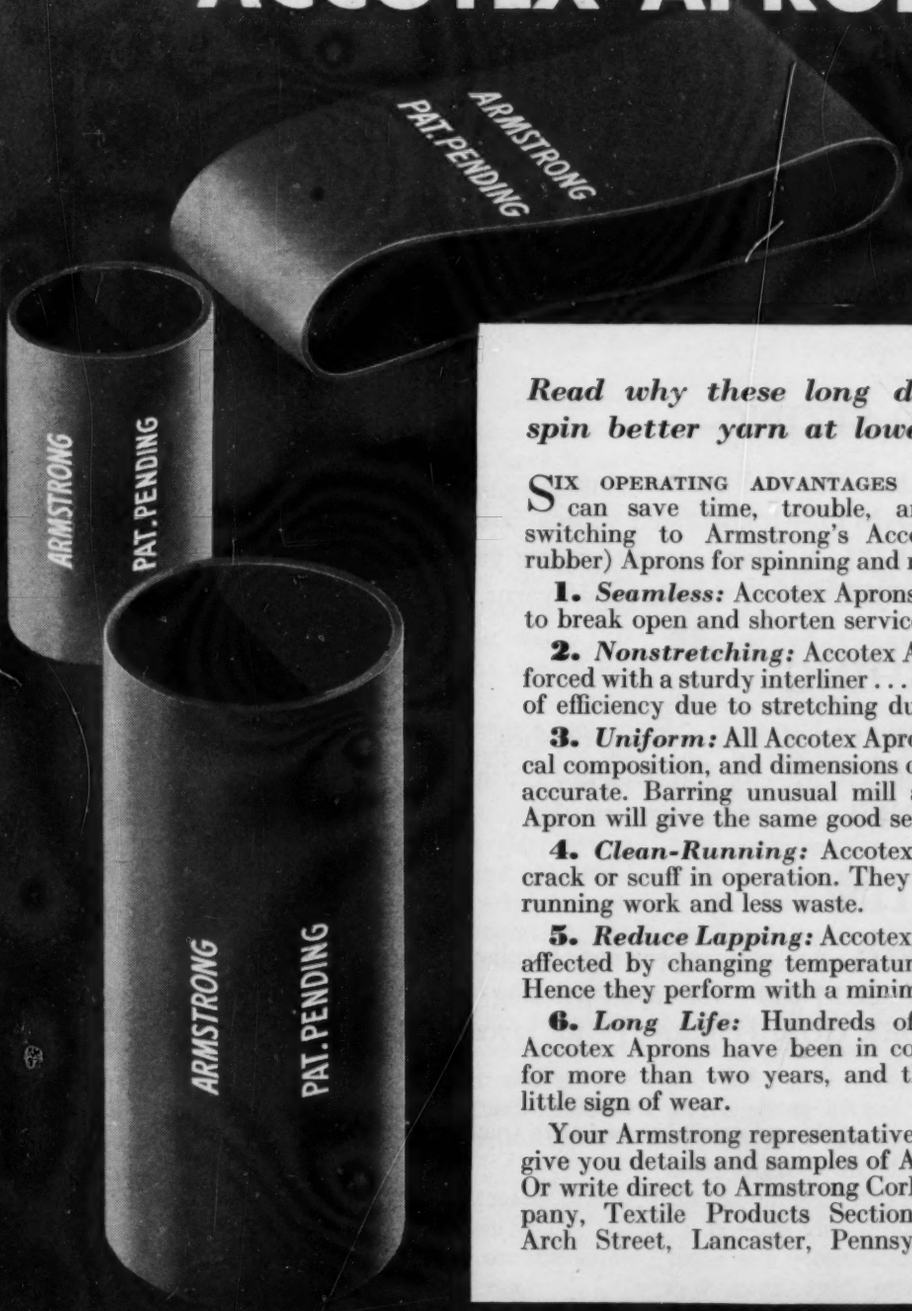
For example:

Red flag up alone = Loom out of fix.
White flag up alone = Warp out.
Blue flag up alone = Smash hand.
Blue and white flags up together = Take off cloth.
Blue and Red up together = Something else.
Red and White up together = Something else.
Red, White and Blue up together = Something else.

In fact, two flags are sufficient for most mills which need only three designations to flag for.

If you want the flags to show up and down the alley, simply twist the stand or bottom piece "a" one-half turn.

SHOULD YOU BE USING ACCOTEX APRONS?



Read why these long draft aprons spin better yarn at lower cost . . .

SIX OPERATING ADVANTAGES tell how you can save time, trouble, and money by switching to Armstrong's Accotex (synthetic rubber) Aprons for spinning and roving frames—

1. ***Seamless:*** Accotex Aprons have no seams to break open and shorten service life.

2. ***Nonstretching:*** Accotex Aprons are reinforced with a sturdy interliner . . . eliminating loss of efficiency due to stretching during operation.

3. ***Uniform:*** All Accotex Aprons have identical composition, and dimensions of every size are accurate. Barring unusual mill accidents, each Apron will give the same good service.

4. ***Clean-Running:*** Accotex Aprons do not crack or scuff in operation. They assure cleaner-running work and less waste.

5. ***Reduce Lapping:*** Accotex Aprons are not affected by changing temperature or humidity. Hence they perform with a minimum of lapping.

6. ***Long Life:*** Hundreds of thousands of Accotex Aprons have been in continual service for more than two years, and they show very little sign of wear.

Your Armstrong representative will be glad to give you details and samples of Accotex Aprons. Or write direct to Armstrong Cork Company, Textile Products Section, 3604 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S ACCOTEX APRONS

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Speed Your Production . . .
Conserve Labor and Critical Materials . . .

WITH THESE

UNIQUE STARCH PRODUCTS!

WARP SIZING—

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HOW OTHER MEN MANAGE

WE INVITE our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing.

Spinning Ring Life

Another man discusses the theory as to whether overhead cleaners decrease the life of spinning rings . . . . . .

EDITOR COTTON:

I was interested in the question with reference to the life of spinning rings and the possible effect of traveling overhead cleaners on the life of rings, as propounded by "CONTRIBUTOR NO. 7399" on page 103 of the January issue of COTTON.

I have noted the comments on this proposition from "CONTRIBUTOR NO. 7401" on page 136 of the February issue of COTTON, and from "CONTRIBUTOR NO. 7400" on page 108 of the March issue.

When I first read the question, it had me stumped, and I have been giving it considerable thought. We have been observing our ring conditions here to see if we could detect any undue wear of rings through the use of overhead cleaners. From these observations, we do not find any unnecessary ring wear. We have been running overhead cleaners over our frames for approximately two years; for one year we have been running three shifts, 143 hours per week. Our spindle speed on 30s warp is 10,200 r.p.m., and on 30s and 41s filling, 9,600 r.p.m.

Naturally, in every spinning room there is a certain amount of fine floating lint and some dust in the atmosphere. Particles of this foreign matter settle on the ring rail, and when reacting with the moisture present and the heat generated by the traveler, form a tough, unsightly film on the ring rail and the lower part of the holder. It is possible that overhead cleaners increase the frequency of this accumulation. In some mills I have seen this film accumulate inside of the ring surface so heavily that one could only see the track made by the traveler. This condition was seen in mills without overhead cleaners and would show up more so on frames at the side of the mill nearest the river. The lint and dirt appeared to float more to the side of the mill following the direction of the flow of the river.

You will agree with me that there are many causes of ring wear, and I will list some of them:

Continually changing yarn numbers on the same frames from coarse to fine, and vice versa.

Running travelers too long.

Running travelers with too large a circle and a variation in traveler circles in the same lot of travelers.

Spindles not kept plumb—top and bottom.

Thread guides not properly centered over the center of the spindle.

Excessive ring rail vibration.

The life of rings fluctuates considerably, depending on proper supervision for eliminating bad mill practices such as I have stated.

I have seen the life of rings vary from 10 to 20 years on a one-shift basis, using double flange rings and turning them. The mill mentioned as running for 20 years was on fine yarns with very slow spindle speeds, and the rings (double flange) were turned.

I must confess that the ring manufacturers' lives have been made miserable many times by the condemnation of rings made by them showing uneven wear when the cause was poor practice on the part of the mill management. Many of us spend too much time trying to alibi our faulty methods of operation onto some new system.

CONTRIBUTOR NO. 7419

Dyeing Sulphur and Developed Colors

EDITOR COTTON:

We would like to see in "HOW OTHER MEN MANAGE" in COTTON, a discussion of the best practices of dyeing sulphur and developed colors in shades of 1 per cent up to 10 per cent. We are particularly interested in any suggestions that will assist us in getting this stock to card, spin and weave as well as possible.

We would like to know what percentage of increased loom stops is reasonable to expect of such colored yarns as compared with natural yarns in the same warp.

We are interested also in knowing how many washes this raw stock should get, how long a period should be used in each wash, and at what temperature, and whether or not it is considered good practice to use common salt in the final wash, or if there are other ingredients that are better in order to improve the running quality of the raw stock dyed cotton.

We are also interested in knowing what temperatures are recommended for the dryer in drying this raw stock dyed cotton with sulphur and developed shades ranging as stated.

We are using Middling 1-inch cotton which goes into 16s to 22s yarn, warp twist, as well as filling. We have Chattanooga closed type raw stock dyeing machines with Proctor and Schwartz dryer.

In addition to the specific questions we have asked, we should be glad to get any further discussion on the general subject of handling these colors and any specific recommendations that might be helpful.

CONTRIBUTOR NO. 7414

Calculating Card Room Efficiency

EDITOR COTTON:

This is written in response to the request of "CONTRIBUTOR NO. 7387", who asked for descriptions of methods of calculating machine efficiency in cotton mill card rooms, for instance, on roving frames.

The calculation of per cent efficiency for any machine such as used in cotton mills and a great many more of other industries may be done by using one of three methods of comparison or all three if desired or necessary.

For a known period of hours run:

1. By comparing actual hours run against full period of time.

2. By comparing actual weight made against possible turnout in weight.

3. By comparing actual delivery length against possible delivery length.

At 100 per cent efficiency a machine has turned out its "possible" production within a given time or 100 per cent capacity production.

If the machine stops at intervals, or runs empty, or both, we will not attain 100 per cent production or possible production.

Since most machines come within this latter category, we realize that we have to know first how many possible pounds such a machine is capable to deliver at full run or 100 per cent efficiency within a given time, and how much the machine has actually delivered at the same time.

If the possible delivery is 100 pounds in 10 hours and the amount actually gotten in this time is 80 pounds, the per cent efficiency would obviously be 80 per cent or

$$\text{Efficiency Percent} = 100 \times \frac{\text{Actual Lbs.}}{\text{Possible Lbs.}}$$

$$100 \times \frac{80}{100} = 80 \text{ Per Cent}$$

This formula looks very easy if we weigh the production, which procedure is all right for a sample of small proportions but not for the output of an entire mill.

Most machines whose efficiency is essential to know for wage rates have hank clocks mounted on the end of a delivery roll.

In this case instead of the formula for weights, we use the one for delivery.

$$\text{Efficiency \%} = 100 \times \frac{\text{Actual hanks produced}}{\text{Possible hanks at 100\% Eff.}}$$

While we must make recordings from the actual hanks delivered in a given time, we do best to calculate the "possible" hanks with the help of known data such as front roll speed or spindle speed.

In the case of fly frames the front roll delivery speed is determined by the twist per inch inserted and consequently the size of the twist wheel in conjunction with spindle speed are here the factors to consider.

Suppose the time for which actual hank readings were taken is 40 hours. The possible hanks for the fly frame roll will be:

$$\frac{40 \times 60 \times \text{inches del. per min. by front roll}}{36 \times 840}$$

The inches delivered per minute are, as every carder or spinner knows:

$$\frac{\text{Spindle speed per min.}}{\text{Twist per inch}}$$

With this value incorporated above in place of inches delivered per minute, the possible hanks in 40 hours =

$$\frac{40 \times 60 \times \text{Spindle speed per min.}}{36 \times 840 \times \text{Twist per inch}}$$

When we incorporate this formula into the efficiency formula, then the percentage of efficiency of a fly frame in 40 hours =

$$\frac{100 \times \text{Actual hanks recorded} \times 36 \times 840 \times \text{Tw./in.}}{40 \times 60 \times \text{Spindle RPM}}$$

Expressed in another way:

$$1260 \times \frac{\text{Act. Hanks/40 Hrs.} \times \text{Twist/inch}}{\text{Spindle RPM}}$$

Or, if other time periods are considered at any suitable length in hours, the percentage of efficiency during any number of hours =

$$\frac{50400 \times \text{Actual hanks made} \times \text{Twist/inch}}{\text{Running period in hours.} \times \text{Spindle RPM}}$$

An example of recording actual hanks and calculation of efficiency is shown in Table I.

TABLE I—40-HOUR PERIOD OF ROVING FRAME EFFICIENCIES

Frame Group	Staple	Hank Counts	Twist per In.	Spindle RPM	Possible Hks/40 hrs.	Act. Hks/ 40 hours	% Eff.	Eff Const. 40 Hrs.
1	1" Am	4.00	2.43	1000	32.7	22.89	70	3.0618
2	1⅛"	6.00	2.89	1100	30.2	21.14	70	3.3103
3	1¼"	7.00	2.89	1100	30.2	24.16	80	3.3103
4	1¼"	8.00	3.12	1200	30.4	25.84	85	3.2760
a	b	c	d	e	f	g	h	i

Explanation of Table I:

1. Decide on length of hour period the efficiency is to be figured.

2. Pick a group of frames that run on the same spindle speed, same hank counts and material as well as twist per inch, and enter information in columns *a*, *b*, and *c*.

3. Make speed tests on all frames and if not too far off, average the speeds and enter in column *e*.

4. Calculate the twist per inch by dividing the twist wheel into the twist constant of this group of frames and enter twist per inch in column *d*.

5. Calculate the possible hanks, enter result in column *f*.

$$\frac{\text{Spindle RPM}}{504 \times \text{Tw/in.} \times \text{Hrs.}}$$

6. Proceed to add up the actual hanks made by each frame of each group during the running period. Divide this total by the number of frames and put result in column *g*.

7. Calculate the average efficiency:

$$\frac{50400 \times \text{Act. Hks.} \times \text{Twist per inch}}{\text{Running period in Hrs.} \times \text{Spindle RPM}}$$

Enter result in column *h*.

Now it is obvious that this same procedure may be done for each individual frame as well as a group of frames of the same put-up.

Most of the data entered as contained in columns *a*, *b*, *c*, *d*, *e*, and *f*, are probably kept on indefinitely; that is, not changed for several time periods, whose hours too remain the same.

We can now proceed to figure an "Efficiency" constant for each frame group described.

The efficiency constant for our first group is as follows:

$$\frac{50400 \times 2.43}{40 \times 1000} \times \text{Actual Hanks Made} = 3.0618 \times \text{Actual Hanks Made}$$

For the second group the constant is:

$$\frac{50400 \times 2.89}{40 \times 1100} \times \text{Actual Hanks Made} = 3.3103 \times \text{Actual Hanks}$$

Enter these values in column *i*.

The efficiency constants for all established frame hank groups is generally

$$\frac{50400 \times \text{Twist per inch}}{\text{Period Hrs.} \times \text{Spindle RPM}} \times \text{Actual Hanks.}$$

With this constant worked out for each individual hank set-up all we have to do for any future performance is to add up the hanks made per frame and multiply the result by the efficiency constant in order to get the per cent efficiency.

Finally, to make a long story short, we put the whole summary into a question of general basis:

What is the per cent efficiency of any roving frame during any selected period of hours, if we know the actual number of hanks made during the period?

Answer:

Eff. % = Efficiency Constant × Actual Hanks per spindle.

$$\frac{50400 \times \text{Twist per inch}}{\text{Hrs. of Period} \times \text{Spindle RPM}} \times \text{Actual Hanks per spindle}$$

Similar tables may be pre-calculated for the following frames in a cotton mill: fly frames, ring spinning frames, and twister frames.

For spinning and twister frames a certain contraction factor and possibly a hank clock factor may have to be considered but for comparative purposes may be left off as inconsequential.

The efficiency constant for lappers, combers and drawing frames is as follows:

$$\% \text{ Efficiency} = 100 \times \frac{\text{Actual hanks made}}{\text{Possible hanks}}$$

The possible hanks per period of hours are:

$$\frac{\text{RPM of Del. Roll} \times \text{Dia. of Roll} \times 3.14 \times 60 \times \text{Hrs.}}{36 \times 840}$$

With this information inserted, the percentage of efficiency =

$$\frac{100 \times 36 \times 840 \times \text{Actual Hanks}}{\text{RPM of Roll} \times \text{Dia. Roll In.} \times 3.14 \times 60 \times \text{Hrs.}}$$

And, since the r.p.m. of rolls, diameter of rolls are hardly ever changed and since the hour period for efficiency is probably permanently established, we may calculate all known data to a constant similar to the efficiency constant for fly frames.

$$\frac{100 \times 36 \times 840}{\text{Rpm} \times \text{Dia.} \times 3.14 \times 60 \times \text{Hrs.}} \times \text{Actual Hks. Made}$$

Then, the percentage of efficiency = Efficiency Constant × Actual Hanks Made.

Efficiency may be raised (if too low) by running the machinery with better skilled help or more help. There is an exact point of efficiency at the exact amount of working force needed. This kind of accurate allocation of help against work requirements is a matter for the timing engineers to solve.

Better efficiency is also attained at comparatively low speeds.

Common sense and good practical judgment will go far in letting well enough alone when trying to increase efficiencies against odds. (Lack of help, too high speeds, bad material, etc.)

While the efficiency calculations explained here are actual or performance efficiencies, and as such may be compared with each other indefinitely to judge fluctuation, there is another kind of efficiency on the books of a time study man which is called required efficiency or pre-calculated as a standard. A lot more data is used for this part in the field of time study.

I trust the contributor is satisfied with the present information. You may observe that I have bypassed possible pounds per spindle per hour and actual pounds per spindle per hour. You can readily add two more columns to the table of efficiency data, calculating the desired weights from possible hanks and actual hanks given for the full period.

CONTRIBUTOR No. 7408

Finding Efficiency of Loom Fixers

EDITOR COTTON:

I would appreciate it if several readers of COTTON would give, in your "HOW OTHER MEN MANAGE" department, their ideas on what constitutes a practical, fair and workable system of finding the production efficiency for individual loom fixers' sections, taking into consideration such things as looms stopped waiting for warps, repairs, etc.

CONTRIBUTOR No. 7421

Causes of Different Length Picker Laps

EDITOR COTTON:

We have been having considerable trouble with our pickers making different length laps and to date have not been able to determine why. The laps are measured on a new Saco-Lowell lap meter, and our pickers have the new style chain drive for the calender rolls.

I will appreciate it if other readers of COTTON will discuss their ideas and experiences on this point in the "HOW OTHER MEN MANAGE" department of COTTON.

Another question I would like to see discussed is: Is there supposed to be any draft between the first and last calender rolls; if so, how much?

CONTRIBUTOR NO. 7415

How We Stopped Our Travelers Unthreading

Here a man who asked us a question has given, for those who answered it in the March issue and for others interested, a report on how he finally solved his problem .

ON PAGE 103 of the February issue of COTTON, we published discussions from several men as to the probable causes of spinning travelers unthreading when the ends are slacked to doff. This question came from "CONTRIBUTOR NO. 7392", stated in just this way, and was so submitted promptly to several men for discussion. Later, "CONTRIBUTOR NO. 7392", commenting upon one of the replies of which an advance copy had been submitted to him, said that it did not help him much, adding, "My rings are 1⅜-inch diameter and the base of the quill is 1 3/16-inch. This does not seem irregular to me inasmuch as I have run this combination before without undue trouble. My ends here do not unthread when lifting off the quill. The unthreading seems to take place when the ends are slacked mechanically with power. If we slack ends by turning over the cylinder by hand as has been the custom, the threads or ends do not unthread from the traveler."

This further explanation of his trouble was submitted to the men who replied to the original inquiry, and their further comments appeared in the summary in the February issue.

Just as the February issue was being put on the press, we received information from "CONTRIBUTOR NO. 7392" reporting that he had solved his problem, and as a matter of interest in connection with the discussion in the February issue, we present herewith his explanation:

"We were certain that our troubles lay in two things, the way the rails were 'beared down' by the doffers, and too large a traveler flange opening. We asked our traveler man to send us samples of our travelers with .054 opening instead of .066 that we had been using.

"These samples just came in this week and have solved our problem.

"We found that our doffers were allowing too much 'kink' in the yarn in bearing the rail down too far and then allowing it to rise after the spindles had stopped, and with the large flange opening in the traveler that we were using, in the operation of slacking the ends, the yarn would naturally slip out from under the traveler."

How to Get Ahead

EDITOR COTTON:

At this time, just as during the First World War, there has developed throughout the textile industry an urgent need of men who are wide awake and ambitious enough to handle bigger jobs. Not the 90 day wonder type of overseer, but the real McCoy, the man who has come up the hard way and who is willing to get in there and start punching from the first bell, for it's only this type of man who will be able to answer the last gong and who will still be on his feet when the fight is won. It is with a desire of helping some pivot man, some section man, fixer, or card grinder, that this short article is written.

Personal gain is the goal of every man and to try to discourage it has proven foolish. This article, therefore, is an endeavor to show the conscientious mill man how to achieve that goal in the shortest period of time with a minimum of discouraging setbacks en route. Take the young section hand, fixer, card grinder, second hand, or overseer. He gets his chance to start up in the mill (1) because the organization needs a new man occasionally when someone retires from a higher position or is called into Army service and (2) because someone higher up has noticed some outstanding trait about him—perhaps over a period of months he has improved the appearance, the quality or the general condition of the machines or the job he was assigned to; in short, he has some characteristic which caused him to stand out among his fellow workers.

Here again personal gain enters in. The man in charge of production is constantly looking for these qualities in his men because he needs their help, and he wants them to be able to help him personally so that he can improve his own position for he knows that he must keep going forward. If an overseer or any pivot man takes a job in any mill and just runs that job as it has been run by his predecessor, then he personally has accomplished nothing. That is why you so often hear among mill men, "I don't want that job. It's in too good condition mechanically. I couldn't make any showing there."

A good mill man wants a job where machinery is in a poor state of repair because he feels he can call attention to himself by putting things in order. Now, we can't always get what we want when we want it, and it is typical of the true American that

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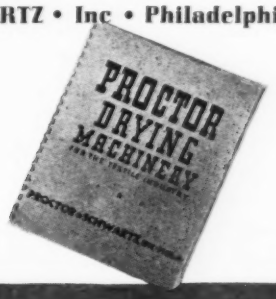

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he wants most those things that are hard to get, and here some of us get all balled up and end up kicking from behind our own goal post. We get the chance and the job, which is the first step up the ladder. And we work hard and long while the enthusiasm of our first success is on. Then something goes haywire with our job. A nasty breakdown perhaps, and we get worried and in this depressed frame of mind we develop the worst thing that can happen to mankind, self pity. We look around us and see the boss chatting contentedly with a salesman and we say to ourselves, "Look at him, he doesn't know what I am up against here. He is having fun while I work like hell. Just so the production rolls out, he is satisfied. About me and my dirty, greasy clothes and my sweat, he doesn't give a damn."

Now let's see what the boss is actually thinking. He comes into your department and if he is a practical mill man he sees you and your sweat and your greasy clothes and knows you have a problem on your hands with that breakdown. He probably worries a bit as to whether you have the necessary replacement parts to repair that job. But if he was the man who picked you for that job among dozens of other men, then he will probably say to his friend, the salesman, "That's a bad breakdown there, but Bill will get it going soon. He really knows his onions."

Then he will crow a bit about how he had foresight enough to promote you from the ranks. There are exceptions to all rules, but we are discussing the real, practical mill executive.

Another trap we must avoid is the one set by our own ego. We should have an abundance of ambition, and above all, plenty of confidence in our own ability. But just because we have been on a certain job a year or so doesn't mean that we have become perfect and are ready to take over the job of superintendent or president. Usually it is wiser to let the man over you decide whether you are capable of stepping up and the way to help him make up his mind to that effect is to run your job better than it ever ran before. Do something out of the ordinary, learn to plan ahead on your job to visualize today what the production should be three weeks from now. Get in the habit of thinking. Thinking is hard work, and we all are prone to let others do it for us while we follow the line of least resistance. One writer once said, "You may know a man who thinks he thinks, or a fellow who thinks he knows. But find a man who knows he thinks, and you've found the man who knows."

Another place where we sometimes get balled up is in thinking that just because the mills are running full time and over time that they are making money galore. Often the mills are lucky to break even because of the heavy taxes imposed upon them and because of ceiling prices.

But getting back to the question of ability and personality, if we have a look over our jobs we are sure to find some of the following problems to be ironed out: tangled roving, dry bearings, belts that need dressing, or new help that needs instructing; these and dozens of other things are detrimental to the manufacturing of quality yarns. You may say, "But these things have been this way all along. Why should I be the one to straighten them out?"

Now, there is the point, and there is the reason the job doesn't pay more. Just so long as you do nothing more to improve your job than the other fellow did you are worth no more than he was.

Back in the days of the old clipper ships and the windjammers, the ship builders were constantly on the look-out for tall, slim, straight trees to make their masts and spar poles from, and if they went into a woods and saw that all the trees were uniform in diameter and height, they simply cut down the first one, but if one tree stood out 15 or 20 feet higher than the others, although it was in the middle of the woods, they would spare no expense to make a road through the firest to get that tree, for such trees were valuable. These ship builders were proud of those tall smooth straight spars and masts and the sleek wooden boats they were made for.

Just so with the key mill man: if he stands out above the men around him he will sooner or later be noticed by some mill man whose business it is to get the best for his organization, for like the ship builders the mill superintendent or president is proud of his mill and likes to boast of the superquality or quantity he turns out. He wants men whom he can trust, men who will be loyal to him and who will take care of his machinery, for that machinery costs up into the thousands of dollars per unit, and it depreciates at an alarming rate when not kept oiled and in proper repair.

Another excellent way of selling our ability to the boss is to see that all spindles are turning during working hours. We are apt to say, "Well, if I don't get this spindle or this frame started today then I will run enough extra on the week-end to make up for it, when as a matter of fact we can run the extra anyway, and with all spindles running we will as a matter of course get just that much more production. There is no earthly way in which to regain the loss of an idle spindle, and it's always the last pound of yarn produced that brings the most profit. It is true that we cannot get what we want when we want it, but we can get anything we want if we have enough wanting capacity. If we want a higher paying job enough to get in there and fight for it and do the things necessary that were left undone by the other guy, then sooner or later we will get it. If we put our present job in tip-top shape and show the boss that we have the stamina to hang on and keep it there, then don't think he will overlook our ability; although we may not hear of it for awhile—but we must remember there is no stopping, no resting on our laurels. We either go forward or backward.

So, in this shortage of good textile men, we see our chance and our work is cut out for us. Let's pick out what we want, then roll up our sleeves and go after it. Radio's famous Uncle Ezra gives us a good thought for the take-off when he says, "You can't make foot prints in the sands of time sitting down."

CONTRIBUTOR NO. 7390

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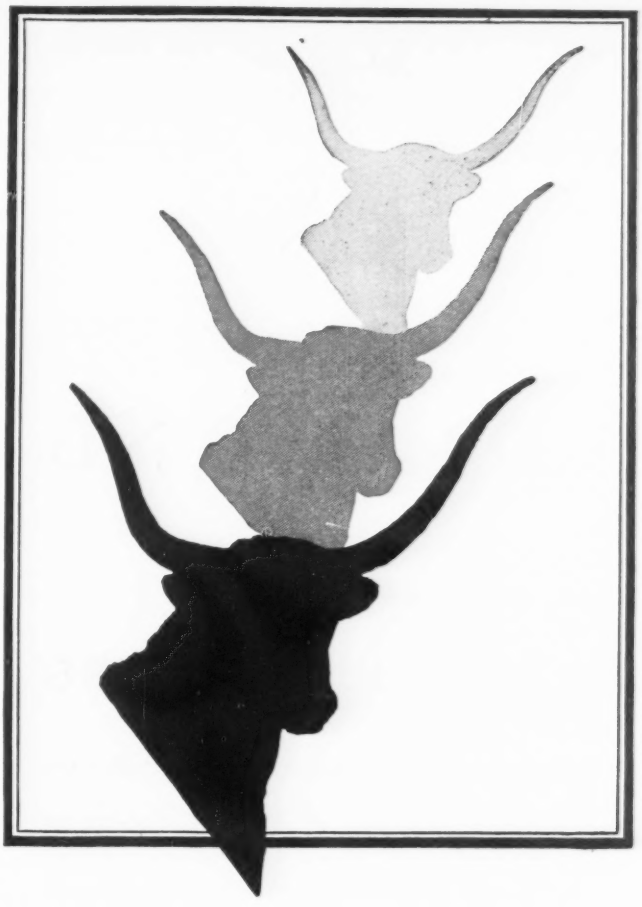

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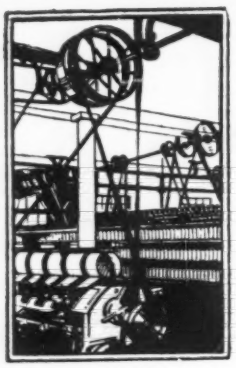

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(*Continued from page* 74)

and he is ready and willing to massacre anybody that tries to take it. According to union doctrine a man who will take the job of a striker is the lowest form of animal life. In striking, the workman is not quitting his job at all, nor is he relinquishing any rights connected with that job; he is simply refusing to work and refusing to let anybody else do the job.

A strike is, in fact, a conspiracy to commit mischief; a deliberate, concerted attempt by a group, or by several groups, of union members to cause damage sufficiently great to force employers to yield to their demands as the lesser of two evils. It is a conspiracy in restraint of trade as clearly defined and just as vicious as a similar attempt on the part of a corporation to cause injury to another corporation for the purpose of benefits arising from such injury. If one huge corporation controlled all the coal produced in the United States and refused to sell coal to some customer until the customer agreed to unfair terms dictated by the coal trust, this would constitute a condition so obnoxious that the American people have said in no uncertain terms that a situation of this kind must not be permitted to come about; yet, one huge labor monopoly does control the mining of coal in the United States, and does bring pressure to bear to force acquiescence to its demands, and a complaisant Government refuses to do anything about it, while an inarticulate public does not seem to realize the gravity of this situation. There is not the slightest difference between the two cases. Whether a corporate group exercises monopolistic control to enrich itself, or whether this monopoly is maintained by a labor group for the same purpose, the result is the same as far as the public is concerned.

So far, these labor monopolies have applied to only a few industries, and the general public has not suffered from them as grievously as it is now beginning to suffer, with the extension of the monopolies. We are rapidly approaching the point, however, when practically every industrial job is going to be claimed as the property of some labor union, and where the terms of employment in industry will be dictated by the unions and probably dictated with as little regard to progress or efficiency as has been shown by the railroad, mining, or textile unions. A monopoly is the natural enemy of progress. It makes no difference what group operates the monopoly, it is going to oppose progress. We have never heard of an industry that welcomed progress which put it out of business, and we have never heard of a labor organization which welcomed progress that caused a large proportion of its membership to lose their jobs. Still, these things are the price of progress. We can only improve our national economic status by making more goods with fewer workmen. The union slogan of "More Pay for Less Work" is the very antithesis of the spirit of progress, and the will to win the war.

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Readers of COTTON *are reminded that the Editorial Department will welcome any questions on any phase of textile mill problems and methods.*

HELPFUL BOOKLETS FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by COTTON advertisers for aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or equipment in which you are interested. Then fill in the numbers of those desired on the coupon on the following page and mail it to COTTON.

GENERAL ECONOMIC, MANAGEMENT . . .

3. MILL NOTES—Special bulletin issued for Southern Mills.—UNITED STATES TESTING CO., Hoboken, N. J.

4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

PLANT AND PLANT MAINTENANCE . . .

101. STEWART FENCES — Illustrated catalog which is a complete text on the subject of fence for industrial uses.—STEWART IRON WORKS COMPANY, INC., Covington, Ky.

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

104. FENCE FACTS—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence.—PAGE FENCE ASSOCIATION, Bridgeport, Conn.

105. DULUX — THE WHITE FINISH THAT STAYS WHITE—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays white, stays cleaner and stands repeated washing.—E. I. DU PONT DE NEMOURS & CO., Finishes Division, Wilmington, Del.

106. THEY STAY BRIGHTER LONGER—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request.—GENERAL ELECTRIC COMPANY, Dept. 166, Nela Park, Cleveland, Ohio.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. RIHCO TYPE B HUMIDIFIER HEADS—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

111. SUPPLY, MAINTENANCE AND REGULATION OF HUMIDITY—General catalog of humidifying and air-conditioning devices including humidifiers, controls, atomizers, sprayers, etc.; also, lap weight indicators for picker room.—AMERICAN MOISTENING CO., Providence, R. I.

112. ROBBINS FLOORING—Outstanding installations of flooring including hard maple for industrials with textile and general photographs. — ROBBINS FLOORING CO., Rhinelander, Wis.

114. HARD MAPLE FLOORING—Featuring close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for architects, builders and others when considering flooring grade requirements.—MAPLE FLOORING MFRS. ASSN., Chicago, Ill.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on atomizer method of humidification. Bulletin 1140. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

119. HANDBOOK OF MAGNESIUM ALLOYS—48 page booklet on constitution, properties, magnesium and alloys including working and machining. Data sheets also available to fabricators.—AMERICAN MAGNESIUM CORP., Cleveland, Ohio.

120. SCALES FOR THE TEXTILE INDUSTRY—12-page book illustrating modern, automatic-indicating scales for all requirements of the textile industry.—TOLEDO SCALE COMPANY, Toledo, Ohio.

123. FACTORING AND FINANCING—Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

126. TEXTILE SHEET METAL PRODUCTS—Folder on cylinders, card screens, licker-in screens, repair work.—JENKINS METAL SHOP, Gastonia, North Carolina.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

207. DAYTON COG BELT CATALOG—A 32 page booklet on power drives, arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired.—THE DAYTON RUBBER MFG. CO., Dept. C-11, Dayton, Ohio.

210. GOODYEAR MECHANICAL RUBBER GOODS CATALOG—48 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

213. LUBRICATION—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils.—THE TEXAS COMPANY, New York, N. Y.

216. LEATHER BOOKLET NO. 202 — Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

217. TEXTILE LEATHERS—Catalog of complete line of leather products for looms, condensers, gill boxes, combs, including G & K "Hairitan."—GRATON & KNIGHT, Worcester, Mass.

222. NEEDLE AND BALL BEARINGS—Catalog 404 gives ball bearing data with data on selection of proper bearings; Catalog 22 outlines use of needle bearings, including textile uses, types, installation, lubrication and general data. Both issued by TORRINGTON CO., Torrington, Conn.

224. LEATHER BELT DRIVES — Clear, concise non-technical descriptions of short-center pivoted motor leather belt drives with easily used drive selection tables, other pertinent data. — SOUTHERN BELTING CO., Atlanta, Ga.

225. BRONZE BEARINGS—64 page catalog of standard sizes of textile and industrial bearings, graphited o il-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, O.

227. MULTIPLE GROOVE V-BELT DRIVE DATA BOOK—Complete book showing many drive combinations for easy selection with engineering information for figuring special V-Belt drives. No. 915.—ROCKWOOD MFG. CO., Indianapolis, Ind.

228. MOTOR SWITCHES AND STARTERS—Bulletins, covering Combination magnetic switch, mercury-button limit switch, magnetic motor starter, limit switch with snap-action.—GENERAL ELECTRIC CO., Schenectady, N. Y.

230. PRINCIPLES OF TEXTILE MILL LUBRICATION—Booklet giving specific lubrication problems and data on practical textile operation, including advice on uses of various oils and greases.—TIDE WATER ASSOCIATED OIL CO., New York, New York.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

232. SKF INDUSTRIES SPHERICAL ROLLER BEARINGS—36 page catalog on bearing applications and selection, also time saving computations.—SKF INDUSTRIES, INC., Philadelphia, Pa.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY—Outlining the applications and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

239. SKF BETTER SPINNING AND TWISTING—16-page catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous puller and bearing applications.—SKF INDUSTRIES, INC., Philadelphia, Pa.

240. REEVES VARIABLE SPEED CONTROL—Catalog G-397, 120 pages, containing numerous illustrations and examples of variable speed control equipment applications in textile industry.—REEVES PULLEY COMPANY, Columbus, Ind.

243. ELECTRICAL MACHINERY CATECHISM—40-page book on electrical machinery—also bulletins on electric motors and pumping equipment.—FAIRBANKS, MORSE & CO., Chicago, Ill.

244. TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

246. CUTTING OPERATING COSTS—Nationwide Illustrated Survey showing how American textile mills cut operating costs with Multiple V-Belt Drives.—GATES RUBBER CO., Denver, Colorado.

248. BEARING AND TRANSMISSION SERVICE—48 page booklet on hangers, pillow blocks, bearings, etc.—CHAPMAN TRANSMISSION CORP., Buffalo, New York.

249. TENTACULAR DRIVE—No. A117—32 pages illustrated describing complete line of leather belting, proper application and maintenance. Contains numerous tables and technical information.—ALEXANDER BROS., INC., Philadelphia, Pa.

250. NATIONAL POWER RECOVERY PLAN—Save power wastes throughout plant. Complete booklet with plan and working material to save power with minimum time and effort.—L. H. GILMER CO., Tacony, Philadelphia, Pa.

253. HOW TO GET THE MOST FROM YOUR LEATHER BELTING—Illustrated booklet on leather belt installation; maintenance; cleaning; dressing; aligning shafting, pulleys.—AMERICAN LEATHER BELTING ASSOCIATION, New York City.

254. LUBRICATION — THE PRIME ESSENTIAL OF INDUSTRY—Illustrated booklet giving Lubriplate recommendations for bearings, drives, gears, etc. LUBRIPLATE DIVISION, Fiske Bros. Refining Co., Newark, N. J.

255. WARTIME CONSERVATION — Recommendations for saving critical materials in electrical equipment and speeding present production.—WESTINGHOUSE ELECTRIC & MFG. CO., East Pittsburgh, Pennsylvania.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302. LUNKENHEIMER CATALOG 78—136 page catalog describing a complete line of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and other specialties. Also included is a section on the thermo-dynamic properties of steam, and a table of shipping weights.—THE LUNKENHEIMER CO., Cincinnati, Ohio.

304. MORTON NICKEL IRON QUICK OPENING HANDLE GATE VALVE—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim.—MORTON MACHINE WORKS, Columbus, Georgia.

306. TEMPERATURE CONTROLLERS — 48-page illustrated Bulletin 225, describing instruments and accessories essential for efficient dyeing, finishing, slashing, mercerizing, kier boiling, and other processes involving temperature.—THE FOXBORO COMPANY, Foxboro, Mass.

307. THERMOMETERS AND PRESSURE GAUGES—Catalogs 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

CARDING, SPINNING, WINDING, ETC. . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC OVERHEAD CLEANER FOR SPINNING, WINDING, WARPING AND TWISTING—24 page booklet showing the new American Monorail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner prevents accumulation of fly with no harm to roving.—THE AMERICAN MONORAIL COMPANY, Cleveland, Ohio.

403. SACO-LOWELL COTTON MACHINERY—TWISTING—A 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. — SACO-LOWELL SHOPS, Boston, Mass.

404. SACO-LOWELL COTTON MACHINERY—SPINNING—The second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. — SACO-LOWELL SHOPS, Boston, Massachusetts.

405. YARN CONDITIONING AND TWIST-SETTING—Tenesol booklet on new conditioning agent for textile yarns.—BURKART-SCHIER CHEMICAL COMPANY, Chattanooga, Tenn.

407. CARD GRINDER INFORMATION—Folder on care of card grinders, part replacements, etc.—B. S. ROY & SON CO., Worcester, Mass., and Greenville, South Carolina.

408. THE BOWEN SPINNER'S RECORD BOOK—Handy leather bound notebook which contains a world of useful information as well as tables for keeping accurate spinning data.—U. S. RING TRAVELER COMPANY, Providence, R. I.

410. FIBRE CONDITIONING WITH TEXSPRAY COMPOUND—30 page booklet on treating of cotton or cut staple fibers with Texspray Compound including the advantages and development of fiber conditioning.—THE TEXAS CO., New York City.

411. THE VICTOR CIRCLE-D TRAVELER—Pamphlet describing this important advance in traveler design.—VICTOR RING TRAVELER COMPANY, Providence, R. I.

413. SONOCO PRODUCTS—A 68 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc.—SONOCO PRODUCTS CO., Hartsville, S. C.

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416. BRIEF SAGA OF THE RING TRAVELER—Interesting history of development of ring spinning in connection with cotton manufacturing. — NATIONAL RING TRAVELER CO., Providence, R. I.

417. PRECISION WINDING FOR SILK AND RAYON YARNS—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. — UNIVERSAL WINDING CO., Providence, R. I.

418. FIDELITY SPOOLING MACHINES — Illustrated booklet describing the Fidelity Spooling Machine and outlining its many applications in the textile industry. — FIDELITY MACHINE COMPANY, Philadelphia, Pa.

419. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Georgia.

421. AUTOMATIC WINDERS—Folder describing latest winding equipment with full automatic operation. Only one automatic head for up to 100 spindles.—ABBOTT MACHINE CO., Wilton, N. H.

422. MODERN TEXTILE ROLL COVERINGS—Illustrated booklet on roll covering problems with chart on correct usage. Also data on Accotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

WEAVING, SLASHING . . .

502. TEXTILE COUNTERS—Catalog T37 describing pick counters for looms, hank counters for spinning, yardage counters for cloth loom, etc.—VEEDER-ROOT, INC., Hartford, Conn.

503. HARNESS, HEDDLES AND REEDS—8 page illustrated booklet on steel heddles, harness frames, mail-eye harness, jacquard heddles, etc.—EMMONS LOOM HARNESS CO., Lawrence, Mass.

504. TEXTILE LEATHERS—Catalog of complete line of leather products for looms, condensers, gill boxes, combs, including G & K "Halritan."—GRATON & KNIGHT, Worcester, Mass.

506. NOTES ON EXSIZE—Attractive new booklet describing the use of Exsize for desizing fabrics. Included is a review of general sizing and finishing and a flow chart showing the cotton and rayon finishing processes.—PABST SALES COMPANY, Chicago, Ill.

508. SIZING AND FINISHING — A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing.—STEIN, HALL & CO., INC., New York City.

509. ARCY—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. —DRAKE CORPORATION, Norfolk, Va.

510. THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

511. HOUGHTO SIZE SR — Leaflet describing a new sizing compound for spun rayon warps which provides high breaking strength, greater elasticity and increased weave-room production at low cost.—E. F. HOUGHTON & CO., Philadelphia, Pa.

512. CARO-GANT — The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant, the Warp Dressing that makes stronger, more elastic warps with a maximum breaking strength and a minimum reduction in elasticity.—HART PRODUCTS CORP., New York City.

514. WEAVING DISEASES — THEIR CAUSES AND PREVENTIVES—Illustrated booklet on weaving of rayon fabrics.—INDUSTRIAL RAYON CORP., New York, N. Y.

DYEING, FINISHING, CLOTH ROOM . . .

602. ALUMINUM IN THE CHEMICAL INDUSTRY—Published by Aluminum Company of America. Fifty-two pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses.—ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

603. THE MORTON SYSTEM—Illustrated literature describing the Morton Improved double circulating raw stock dyeing and bleaching machine, the Morton horizontal revolving beam and package dyeing machine and beam bleaching machine, the Morton vertical package and roving dyeing machine.—MORTON MACHINE WORKS, Columbus, Ga.

604. THE NEW PROCTOR AUTOMATIC YARN DRYER—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

605. BUTTERWORTH ELECTRIC GUIDERS — 6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pennsylvania.

606. SLITTERS AND ROLL-WINDERS — 8 page folder illustrating more than 25 types of slitters and roll-winders for textiles. Form CF-640.—CAMERON MACHINE CO., Brooklyn, N. Y.

607. GENERAL ELECTRIC EQUIPMENT FOR TENTERS—Folders including drive and control, guider equipment, welt-straightening controls—providing means of finishing cloth of uniform quality.—GENERAL ELECTRIC CO., Schenectady, N. Y.

609. LIXATE PROCESS FOR MAKING BRINE—36-p. booklet includes installations in textile plants for regenerating water softeners; for dye exhausting agents.—INTERNATIONAL SALT CO., INC., Scranton, Pa.

DYESTUFFS, CHEMICALS, SOAPS . . .

704. THE TEXTILE APPLICATION OF METASOL (CALGON)—Handbook with detail information covering the use of Metasol in Scouring, Bleaching, Dyeing and Finishing.—BURKART-SCHIER CHEMICAL CO., Chattanooga, Tenn.

707. THICKENING MATERIALS FOR TEXTILE PRINTING—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine.—STEIN, HALL & CO., INC., New York City.

709. CAUSTIC SODA BULLETIN — A data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas.—PENNSYLVANIA SALT MFG. CO., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

711. KEY PRODUCTS FOR TEXTILE INDUSTRY—22 page leaflet describing textile specialties used in dyeing, bleaching and finishing as applied to Southern textile industry from Southern plants of AMERICAN CYANAMID & CHEMICAL CORP., Charlotte, N. C.

712. STANDARD SILICATE ALKALIES—Booklet on silicate of soda for kier boiling, bleaching, water treatment, etc., giving tables for specific gravity, temperature correction, tank capacity.—STANDARD SILICATE DIV., Diamond Alkali Co., Pittsburgh, Pennsylvania.

714. FUGITIVE TINTS — Information on water soluble, oil soluble, all types fugitive tints.—TINT SERVICE DIV., United States Testing Co., Hoboken, New Jersey.

715. AQUAROL AND ARKANSAS PRODUCTS—Bulletins on Aquarol, water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and rayon, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

717. FINISH KB — Finishing compound designed as binder in combination with filling and stiffening compounds. Avoids dusting, insures draping qualities.—SANDOZ CHEMICAL WORKS, New York City.

719. MERCERIZING AND DYPENOL — 10 page booklet on methods of mercerizing, caustic recovery, important facts in mercerizing, etc.—HART PRODUCTS CORP., New York City.

720. AVITEX—Bulletin 2B—Describes the varied uses of textile finishing agents. Includes extensive experience in the field. Designed for practical working conditions covering cotton, wool, rayon, silk and linen mill applications.—Fine Chemicals Division, E. I. DU PONT DE NEMOURS & COMPANY, INC., Wilmington, Del.

722. LUPOSEC — Leaflet describing Luposec, a waterproofing agent with great stability; soluble in cold or warm water at all temperatures; suitable for all fibers and especially effective in splash-proofing silk hosiery.—JACQUES WOLF & CO., Passaic, N. J.

723. RHOPLEX RESINS—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles.—ROHM & HAAS CO., INC., Philadelphia, Pennsylvania.

725. THE APPLICATION OF SOAPS AND SOAP PRODUCTS TO TEXTILE PROCESSING—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. — COLGATE-PALMOLIVE-PEET COMPANY, 105 Hudson St., Jersey City, N. J.

726. WETSIT—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths.—JACQUES WOLF & CO., Passaic, N. J.

727. THE ONYXSANS—24 page book describing the application of cation active permanent softeners in textile processing and finishing plants.—ONYX OIL & CHEMICAL CO., 15 Exchange Place, Jersey City, N. J.

732. A NEW FINISHING OIL—Folder on Warco 945-A finishing agent where softness is desired.—WARWICK CHEMICAL CO., West Warwick, R. I.

733. DYED COTTON TEXTILE ITEMS FOR WAR USE—No. 632. Government procurement agencies, specifications with equipment and procedure for dyeing and finishing cotton textiles for war use.—CALCO CHEMICAL DIV., AMERICAN CYANAMID CO., Bound Brook, N. J.

734. DETERGENTS AND WETTING AGENTS—New folder on evaluation testing wetting agents, detergents.—E. F. HOUGHTON & CO., Philadelphia, Pennsylvania.

738. LEVELENE—Booklet describing use of Levelene for levelling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

803. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., York and Cedar Sts., Philadelphia, Pa.

804. FULL-FASHIONED HOSIERY MANUFACTURE—Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery.—GULF OIL CORPORATION, Pittsburgh, Pennsylvania.

805. DEPENDABLE FINISHING FOR MODERN ELASTIC TOP HOSIERY—Describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery.—UNION SPECIAL MACHINE COMPANY, Chicago, Ill.

807. CIRCULAR KNITTING MACHINES—A fifty-two page illustrated booklet containing reliable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, selvage welt, loose course and methods of laying in Lastex.—FIDELITY MACHINE COMPANY, Philadelphia, Pa.

808. METROPOLITAN SPLIT TUBING MACHINE—Folder describing new machine for attaching split tubing to athletic shorts, lingerie, undergarments, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

SEWING MACHINES . . .

902. SEWING MACHINES — Illustrated technical booklets on high speed lock-stitch sewing machines for all types of work.—SINGER SEWING MACHINE CO., New York City.

904. FORM 769. CONDENSED CATALOG — A 40 page pocket size booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York City.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY—Illustrated folder including elements of materials handling system, preparation of simple layout.—CLEVELAND TRAMRAIL DIVISION, Wickliffe, O.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. —MEESE, INC., Madison, Ind.

1003. CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1006. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. HOW HANDLING PROBLEMS HAVE BEEN SOLVED—A 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes.—AMERICAN MONORAIL COMPANY, Cleveland, Ohio.

1009. TRUCK CASTERS AND WHEELS—24 page illustrated catalog covering casters and wheels for all truck use with specifications. — THE FAIRBANKS COMPANY, New York City.

1012. DANDUX CANVAS BASKETS—Catalog illustrating and describing "DANDUX" line of Baskets, Hampers and Trucks for the Textile Industry and general use.—C. R. DANIELS, INC., Newark, New Jersey.

1013. HOW TO SHIP, STACK AND LOAD, SEAL —Booklets No. 1, 2 and 5 from Little Packaging Library with helpful information on shipping in corrugated boxes.—HINDE & DAUCH PAPER CO., Sandusky, Ohio.

MISCELLANEOUS . . .

1102. REPAIR PARTS FOR TEXTILE MACHINERY—36 page booklet and catalog on replacement parts for opening, picking, carding, spinning and twisting machinery. — HENDERSON FOUNDRY & MACHINE CO., Hampton, Ga.

1103. UNBRAKO SCREWS—Illustrated 16 page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Included miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pennsylvania.

COTTON, Grant Bldg., Atlanta, Ga.

Please send me, without obligation, free booklets described in the April 1943 issue of COTTON.

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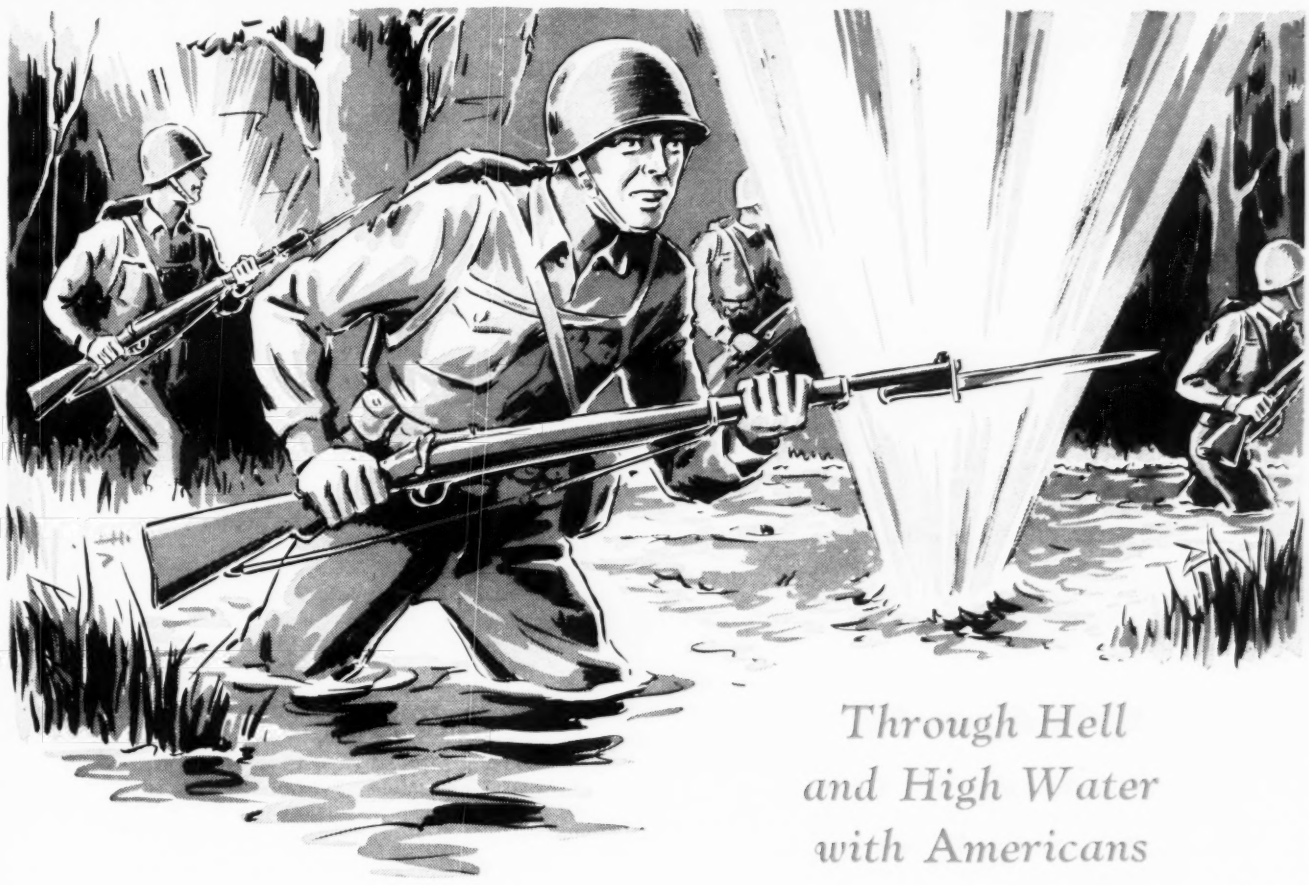

Through Hell and High Water with Americans

OUR American boys fighting the enemy through all the hell and high water of combat in swamps and jungles—have to be pugnacious, crafty and tough fighting men. Again, in this war, Americans have proved themselves without a peer in battle. • The cotton in clothing and equipment makes them all the more powerful in their onslaughts. Much of history in the making depends on this important ingredient. • Dixie Durene (A PRODUCT OF CONTROLLED MANUFACTURE) with its special features of comfort, strength, and service is playing its own role in supplying yarns for selected articles for our Armed Forces. We are gratified that Dixie durene is so acceptable for war needs. • After the War every civilian will again get the full benefit of our production—thanks to the performance of our fighting men.

10% OF DIXIE'S PAYROLL IS INVESTED IN WAR BONDS

Dixie MERCERIZING COMPANY

CHATTANOOGA TENNESSEE

AMERICAN COTTON MADE IN U·S·A

WONDERING WHAT YOUR COMPETITION IS PLANNING FOR

"AFTER THE WAR"?

You are probably giving a lot of thought these days to the effect of current hosiery developments on the post-war market. That your competition is taking time out, also, to plan ahead you may be sure. For it is apparent to alert mill management that the hosiery business will be different, when the war is over, from anything we have known.

This is a tribute, really, to the industry's ingenuity in creating—not substitutes, simply to *tide over* for the duration, but refreshing new styling, techniques and materials able to stand on their own merits, quite apart from the war's influence.

Already, from available yarns, have come altogether original styles to win good retail acceptance. Even more promising creations are anticipated from yarns now in the process of development—with the post-war market very much in mind. All of these are being brought forcibly to the consumer's attention—by new sales policies keyed to the tempo of the times... by a wealth of favorable publicity and, of course, by the steady dwindling of hosiery stocks in conventional yarns.

So, however busy you may be at the moment with current problems, it is good business to "take stock" of your mill's future position in what is certain to be a highly competitive market. For by laying your plans now, you will be able to act quickly and decisively, once the emergency is over... getting new production rolling ahead of competition. The *right* knitting machinery to meet after-Victory hosiery demands will be an obvious advantage. This is one of the many aspects of conversion to peacetime manufacture that we, as machinery builders, have been working on. Would you like to talk it over with us?

The high efficiency of Scott & Williams knitting machines can *only* be maintained by using genuine S & W knitting machine replacement parts. You can count on prompt delivery, too, from S & W stockrooms at Laconia. Teletype service is free from our New York and High Point offices.

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KNITTING SECTION

Knitting Full-Fashioned Hosiery from High-Twist Rayon Yarn

By T. S. Whittier

NOW THAT silk is out of the picture and mills are processing hosiery made of rayon (if they can get it), it is only logical that a knitter will turn to such a type of rayon that will approach the qualities of silk. Many believe that high twist rayon will be a solution to their problems because in high twist rayon there is the possibility of getting more sheerness with a larger denier thread, and also high twist rayon will give more elasticity and dullness.

We have a factor of 2500 which guides us to the relative twist that a certain denier will take, the denier being divided into the factor to give the amount of twist that should be used.

The persons holding rights to Ray de Chine rayon high twisted yarn desire to keep their twist just a little higher than the standard rayon high twist factor, but it is this higher twist that gives the knitter and throwster much processing troubles, even though it is beneficial from a merchandising standpoint.

The writer has tried several methods of processing high twist rayon on the full-fashioned machine, and for the benefit of others, will outline some of the methods tried, so that plants may save some time, at least, in their experimentations.

It is a definite fact that the more tension one applies to high twist rayon the more readily it will snarl up the minute this tension is released.

First Method

One of the first methods that I tried is shown in Fig. 1., and shown is a special rack whereby we tried to run this high twist rayon with as little tension as possible. This method works very well where the yarn is not set as it should be and has a tendency to snarl the minute it leaves the cone. It is the easiest way to run high twist rayon.

The difficulty is that not enough tension can be applied to it to make a good selvage. Under this system the minute tension is applied any place it will cause the yarn to snarl up behind the tension. The good point of this method is the position in which the cone lays. The cone is placed at an angle of 45 degrees so that the tip of the cone points directly to the oil wick and is about 10 inches away from it.

Thus when drawing the yarn off the cone and then stopping the yarn can't snarl up as it is impossible for one part of the yarn to come in contact with the other. This excess yarn just falls down in a bow, whereas when the cone is set vertical the excess yarn falls down beside of the cone and immediately snarls.

Some men say in running single carrier there is no stopping of use of yarn and therefore it doesn't have an opportunity to snarl. This is true as far as straight fabric knitting is concerned, but when the machine gets to the narrowing motion it must stop knitting and then there is the same trouble as if the machine were 3-carrier knitting.

It has been my experience that Bemberg runs a little uneven, thus requiring a 3-carrier knitting setup to make a better fabric.

Note Fig. 1 and the angle of cone and the bow formed with the slack yarn. Thus no snarl can form.

Method Number Two

The principle involved in the second method is to apply plenty of tension to the yarn immediately after it leaves the cone and should any snarl form, the tension is so

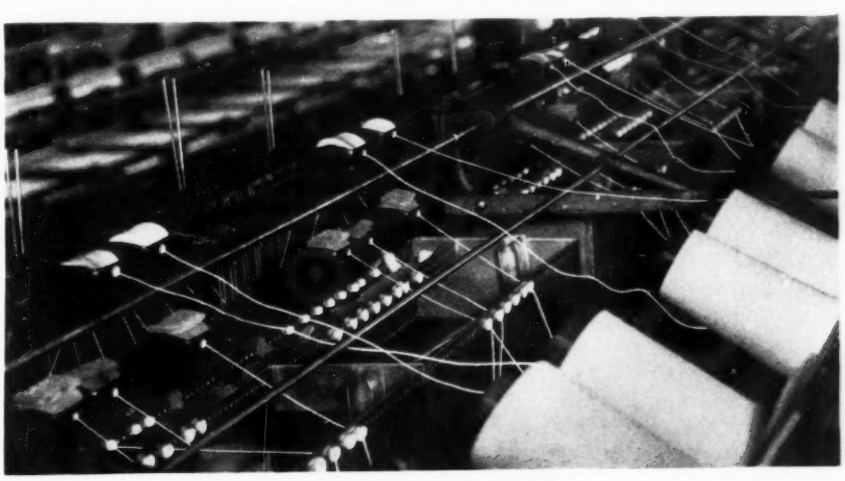

Fig. 1.—First Method

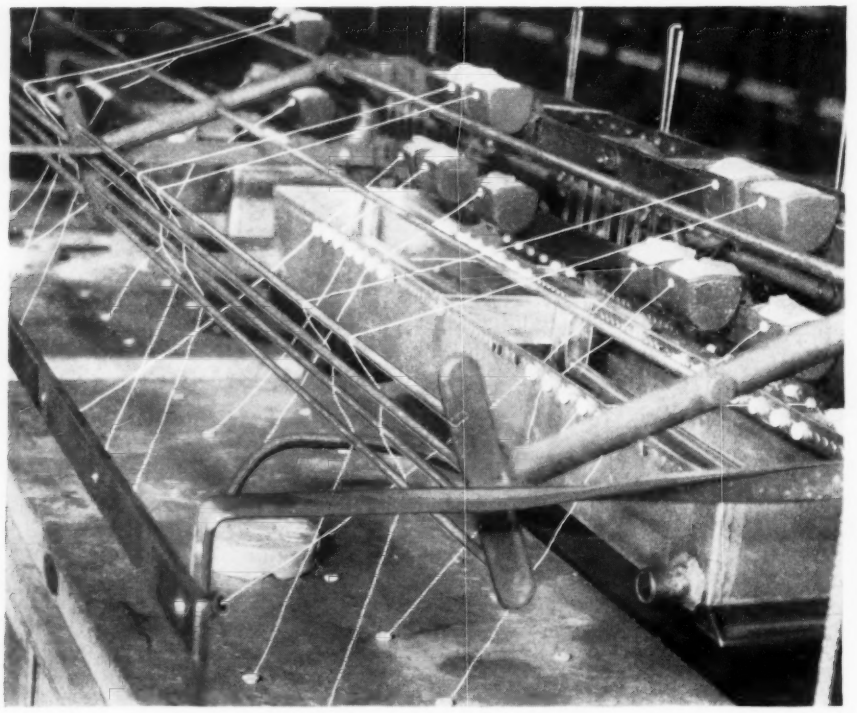

Fig. 2.—Method No. Two

great that the snarl will be pulled apart before it gets to the needles. When this method is used, the yarn can't be lubricated with a wick because if the snarl gets as far as the oil cup it immediately gets set and can't be pulled out.

See Fig, 2 for second method.

This method gives a much better selvage and is quite practical, especially where the throwster can so prepare the yarn that it won't snarl as soon as it leaves the cone.

In my experiments I have found that this tension device must be so constructed that the yarn will be allowed to move about in its own direction as it passes through the tension. Thus, the disk tensions won't work in this case as they do not allow the yarn to move about freely, but keep it taut and thereby create a snarl.

The tension device must be so constructed that the yarn can still be alive and move about while passing through a series of rods on the back of the machine.

The yarn is made to pass under and over these rods, causing a tension. The more tension needed the more rods should be used.

One will note that as the yarn passes over and under these rods it will also want to move sideways. It is this sideways movement that must not be disturbed. The yarn must be allowed at least two inches of movement and if this much room is allowed, the yarn will never snarl while passing through this tension device. The disk tension device eliminates the free movement of the yarn.

The Third Method

We are now using a third method, which I believe is better than the other two outlined, but some mills may prefer one of the others.

We cleaned the machine carefully, paying strict attention to the eyelets, yarn carrier tubes, and other parts, removing all accumulations of gum and other matter that might cause trouble. We removed all rust so that the rayon would not touch it and come in contact with rough places, and replaced all eyelets, porcelains and carrier tubes that showed wear to any extent. Rods and other surfaces where the rayon yarn passed were made smooth.

Then the yarn was wrapped around a glass rod, and this proved to be all the tension that was needed. The yarn ran direct from the cone through the eyelet in the top of the supply box, and then around the glass rod; next it passed through the snappers and directly to the yarn carrier tube.

Mills that use a glass rod in the troughs for wetting out silk will find that this same rod will serve the purpose.

Re-negotiation of Textile Contracts

Knitters along with others who have been supplying the Government are now deeply concerned about re-negotiation proceedings which have been started at the request of the Government against several. Re-negotiation is the system under which the Government examines the books of the contractor supplying such merchandise and asks for a refund where an undefined "excessive profit" seems to exist. The largest wool goods manufacturer in the country is reported to have re-negotiated to the tune of more than $9,000,000. The industry opposes this step in view of the fact OPA has placed ceilings on such merchandise and in addition another ceiling is placed on its goods and garments by the Army Quartermaster Corps. Then too the amount returned to the Government is reduced by the collection expenses involved as well as by the losses in taxes.

They Got Together

Here is what one foreman did to control the absentee situation in his department. Due to the extended hours caused by war production, his company had to go on a 24 hour seven day shift basis. This foreman realized that no matter how much prestige, persuasion, or financial inducement was offered, many of his men would take time off now and then. This would upset his schedule planning and the general running of the department.

Therefore, he laid out a plan so that by switching men around he could keep all his equipment going and still give his men two consecutive days off at 10-day intervals. He had this schedule approved by the management and then posted it in his department. He explained to his men that all would work according to that schedule and they would know in advance when their time off would come so that they could plan ahead.

The men were agreeable and by getting together with them on the problem he has practically eliminated absenteeism, because each man knows where he stands. Not to "play the game" after all had agreed to it would put an individual in the department in a bad light, not only with the foreman, but with fellow-workers as well.—"*Management Information*", *Elliott Service Co., Inc.*

Key Man's Job

The job that America must do in its industrial plants will not help if key people fail to keep their heads. We must depend upon industrial supervisors to coolly calculate every means of stepping up output from the equipment available. A supervisor's ability to get these maximum results is reduced if he permits unavoidable pressure for output to "get him down".—"*Management Information*", *Elliott Service Co., Inc.*

It will take
a Lot of Yarn
to Win
AMERICAN
SUPER-MERCERIZED
Durene
And, it is taking a lot of other things too, that make our efforts at home seem easy and simple by comparison.
We are producing more yarn, of a better quality than ever before. That is our job for today and tomorrow.

Fabricord
AMERICAN'S Special Cord yarn for English Rib Construction

AMERICAN
YARN AND PROCESSING COMPANY
MOUNT HOLLY N. CAROLINA

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KNITTING KINKS

A Third Letter to Joe Doakes

A KNITTING MACHINE FIXER

DEAR JOE:

I guess you have heard by this time about the shifting of fixers at the Watercrest Hosiery Mills a couple of weeks ago, but I am wondering if you have been informed as to the actual facts connected with this case. For myself, I have heard a lot of versions concerning the affair along with the regular line about the management being ungrateful, hard-hearted, etc. Believe me, JOE, none of these stories you might hear is the truth, because I happen to know that RALPH was given every opportunity to make good, so don't you pay any attention to the talk that is drifting around. The gist of the matter is that RALPH has been slipping for some time, not having sense enough to realize things were going from bad to worse, and when Watercrest installed those new 32-section babies, that was the blow that broke the camel's back. It was not the modern equipment alone that finished him, but the fact that he had also let the rest of the machines under his care run down—and you know what that means to a mill.

Do you remember when he stepped into that spot? How everyone kind of envied him because he was taking over a mill which was in such good shape its own momentum would have carried it along for a couple of months? Do you recall how we all were aware of the fact that there was no great amount of work to be done at this mill in order to build it up to a real producing unit? You yourself even mentioned the fact that you wouldn't mind falling into a spot like that yourself, but you know as well as I do that it matters not how good a plant may be running, it will gradually run itself out if the man that takes over falls down on the job and coasts along on the effort put out by his predecessor, not paying much attention to the little things that pop up from day to day. Let me tell you right now that this is exactly what RALPH did; he tried to get by by letting many things take care of themselves and this always ends fatally for those who try it.

You know how it goes—a bust hole here and there, maybe a few picot or narrowing holes that are permitted to slide until tomorrow. This sort of trouble does not eliminate itself overnight. You also probably know how easy it is to reach down and lower knock-over bits when a bust hole occurs—a procedure which, though it might alleviate the trouble, is not the real cure. Perhaps new bits should have been installed, but as this takes a little more effort, it is allowed to slide, the quickest way out being the easiest.

To elucidate a little more fully, maybe lowering the knock-overs did not get rid of the bust hole entirely, so the needle bar is raised a bit, just a little bit, mind you, but it puts the quietus on the hole, but—what RALPH did not stop to consider was that when this had been done it was noticeable at once that the head had ceased to make a good fabric. There was no doubt but that the stocking was sleazy but it was just one head in 24 and multiplied by the number of machines in the plant it surely seemed insignificant, so why worry? Yes, this one head was so insignificant that it did not alter the percentage of the final examining report to any extent whatsoever—but please don't forget that it was there just the same.

Well, can you possibly stretch your imagination far enough to comprehend what tactics of this sort mean over a period of three years? Can you fully understand how the quality of the merchandise must have deteriorated with this slipshod method of eliminating faults in the knitting machines?

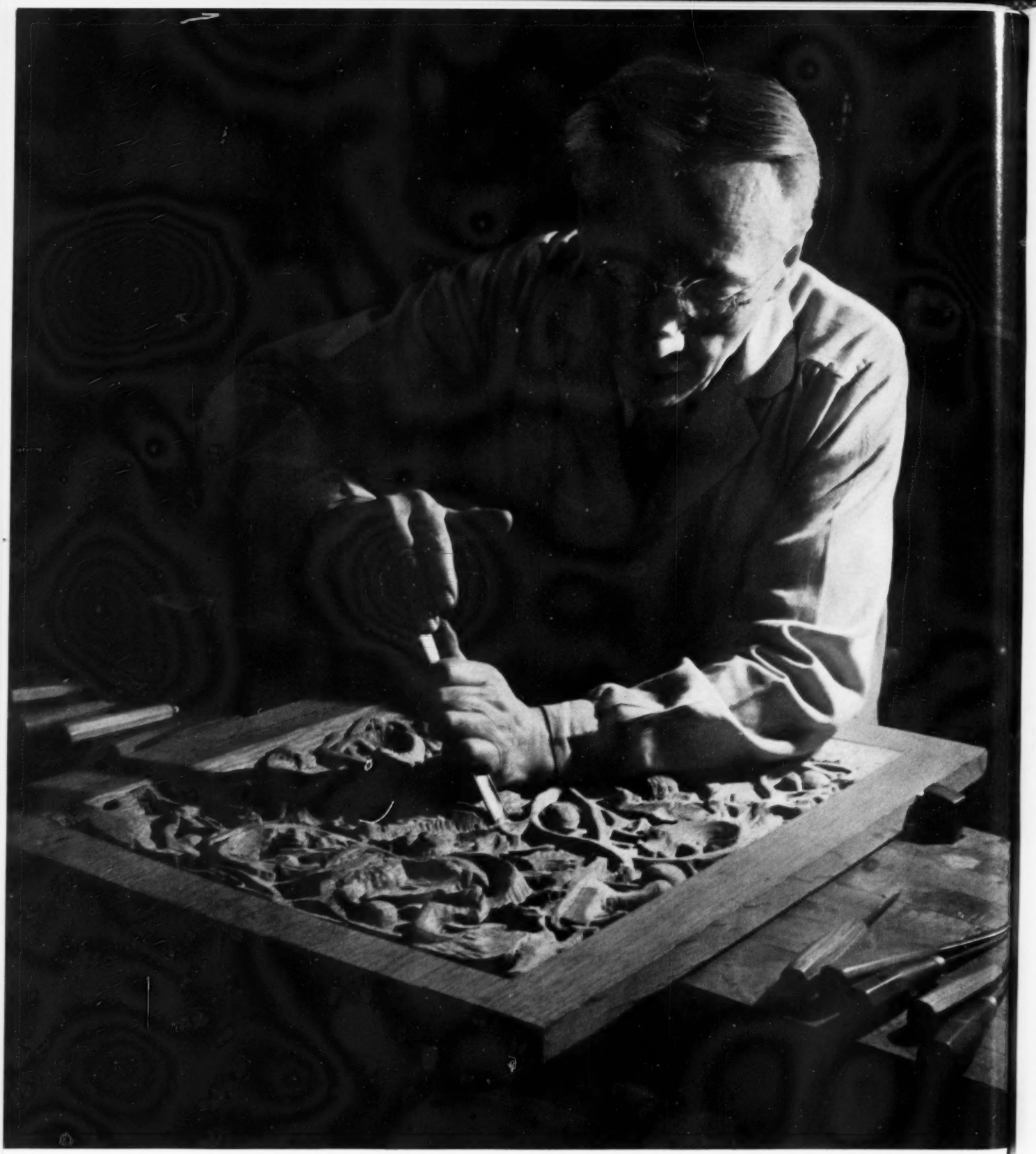
I am using this bust hole adjustment only as an example, mind you, and it is but one of the numerous wrong adjustments that eventually lead to disaster when one gets careless. Put them all together and what have you? Nothing but a mess that never should have occurred in the first place, a mess that will demand a lot of work from someone to straighten out.

Above all things, never forget it is always easier to make the right adjustment at the right time, even though it takes a little more work, because it makes your job easier in the long run. This is the road you must take if you ever hope to build a reputation for yourself; and one thing is certain: if you are a flop in one mill it is a very difficult thing to live down because it will follow you regardless of where you may get a job. In fact, it can very easily travel ahead of you, depriving you of that second chance you may be seeking.

Anyway, it seems that a short time before the arrival of the new machines intended for Watercrest, the boss got after RALPH about the quality of the goods and the ever-decreasing production. Combined, these two ills spell bad medicine for any fixer, but as the percentage sheets told him point by point something was wrong, that he was falling down on the job, it would seem he would have perked up and stemmed the tide before it engulfed him—but he didn't. As long as the office was satisfied, why should he worry? After all, he received his pay check promptly and

Dress Parade . . . Every woman knows how stocking fabrics that are clear and even in texture just naturally take first place in the fashion parade. Every hosiery manufacturer knows that no machine can knit better fabric than the needles can produce. . . . Keep your knitting machines young and effective with TMW Needles. *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.



"There is no excellence without difficulty."
OVID

Until the Victory is Won! . . . The men and experience back of Reading Full-Fashioned Knitting Machines are enlisted for the duration. We *cannot* give you new machines — but we *will* do the next best thing: Our engineers will do their utmost to help you keep your present equipment at highest efficiency. *Let us tell you about our complete reconditioning service and what it means in terms of better fabrics and bigger profits.*

TEXTILE MACHINE WORKS • READING, PA.

First award in America of the 3-Star Army-Navy "E" made to TMW for Ordnance production up to January 25, 1943.

everything seemed O. K. on the surface, but it was a false security, as the ending proved. When he finally was called to account for the poor showing of the knitting room, it was practically too late for him to do much good because the new machines were about to arrive, and you know what these new models are like—a far cry from the old type, which seem sadly obsolete in comparison. And mind you, JOE, these new machines demand much more pampering and care than the old-timers; slaphazard adjusting soon puts them in a shape that would surprise you. So now, RALPH not only had to begin to adjust himself to the new machines, but had a mill full of old ones that needed all of his attention to whip them back into good shape.

It was too late, though, as far as he was concerned, because as the new machines were accepted it meant that they consumed much of his time which should have been given to other jobs. You can well understand how the new ones need little adjustments here and there after they have had a chance to settle. The beginning of the end came when the operators began to complain about the sad condition of their machines, with the new equipment not doing so good either, due to inadequate fixing.

RALPH made another bad mistake right at this time by trying to tell the management the new machines were no good, that there were too many things wrong with them, that the finisher had done a bad job, etc. So, the upshot of it was that another man was hired to sort of help out a bit. You know how it goes. While he was not actually the boss he had things pretty much his own way and when things began to pick up, RALPH kind of took the hint and resigned. He'll probably do better in his next job if someone gives him a chance—you notice I said *if*—because maybe he has learned a lesson, but the fact remains that he has no kick coming because everything that happened was his own fault—irrespective of any little stories that might have reached your ears.

Before closing, I would like to bring up the subject of new machines again by asking you if there is the possibility of your ever becoming awed by the appearance of these intricate mechanisms. If you look at them in this way the chances are they will lick you before you start. I'll grant you there is much more to them as a whole than older models but always remember that no matter how many gadgets and thing-amajigs they contain, they are nothing but knitting machines, designed and put up by man, so there is no reason why a man cannot fix them successfully.

My advice is that if your mill gets new equipment it is a good idea for you to watch the procedure of the builders as the machines are erected. Ask a question here and there for your own good because it will help you tackle your problem when the machines are finished and the finisher has departed. From there on out, it is up to you and what you accomplish with them will denote how good a fixer you are. I will admit it takes a little time to become acquainted with some of the new ideas that you find in the design of the machines erected just prior to the war, but if you find it impossible to master them you might possibly find yourself in the same position RALPH was in, because, after all, if you can't fix them you can hardly blame the management for getting someone who can. After all, it is their money which is invested, and, furthermore, what would you do under identical circumstances if it was your money invested? Believe me, the new ones are no harder to fix than the old ones—the only difference is it takes more brains, and you either have them or you don't.

Sincerely your friend,

EARL ROBERTS.

Effect of Change of Weather on Knitting

EDITOR COTTON:

I am writing to discuss the question brought up on page 170 of your April issue, by "CONTRIBUTOR No. 7342", who wanted to know whether a change in weather has any effect on seamless knitting machines, and if so, what the effect is, and what can be done to standardize conditions.

Changing weather conditions will have a definite effect on seamless knitting operation, especially in mills which are not equipped with a system for humidification or air conditioning. First, let us consider the effects of weather changes on the yarns used in knitting. When these yarns are processed by yarn manufacturers, care is taken to see that they are properly conditioned for knitting purposes, and if the yarns were knit into hosiery immediately when they are received at the knitting mill, all would be well, but yarns are usually received in such quantities as to make this impossible. What usually happens is that after the yarns are removed from the packing cases they are placed in bins in the knitting rooms where they will be handy for the operators. This exposure makes them subject to any atmospheric changes that occur in the room and these changes can affect the conditioning of the yarn within a few hours. Therefore, it can be readily seen where changes in the weather will affect knitting operations in any instance where weather conditions outside the building can affect the atmospheric conditions that prevail inside the plant.

When we consider the element of knitting, which is the loop formed by the needle and interlooped with other loops to make fabric, and also consider the strain to which the yarn is subjected in the formation of these loops, or stitches as they are commonly known, we then realize the importance of having the yarn in proper condition for the knitting operation.

When a yarn is too dry, it becomes brittle and cannot be formed into loops or stitches without breaking or shearing the fibers; and when the yarn is too damp, it cannot be formed into even, well-shaped loops, and the fabric knit from yarns that are too dry or too damp will not have sufficient elasticity to give proper shape.

One of the major effects caused by weather changes or change in the degree of relative humidity will be noticeable in the size variation of the hosiery.

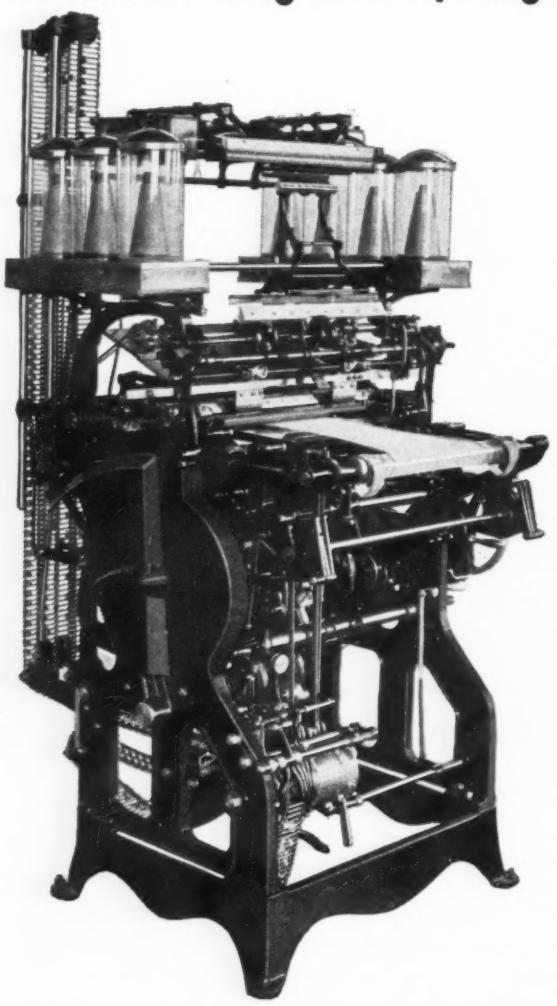
To standardize conditions, the first suggestion would be to install some automatically-controlled hu-

The

MOST SUCCESSFUL WAR EFFORT IS A CHORUS

of the sum total of individual excellence in the ranks, each doing his part perfectly. In the stocking industry, outstanding performance is typified by the

WILDMAN Single-head, Single-unit Full-fashioned HOSIERY MACHINE



which is contributing an important part in the front line of production. By knitting a perfect stocking from top to toe in one continuous operation without stopping or change-over to leggers and footers it is saving thousands of man hours every day in progressive mills throughout the country.

★

Because of war work our production today is restricted to supplying repair parts.

WILDMAN

MFG. CO., NORRISTOWN, PA.

For AMERICA

"Throw YOUR SCRAP into the Fight"

AMERICAN INDUSTRIES SALVAGE PROGRAM

How to Make Factory Floor Space Produce

TWICE

as much

Is it by increasing working hours or running extra shifts? . . . of course such methods would do but they involve other factors you might not be ready to meet.

Here's the ANSWER . . . where an 8-feed machine now stands, replace it with a WILDMAN 16-feed machine, and on exactly the *same floor* space, you can,

DOUBLE YOUR PRODUCTION

In addition to thus stepping up production, at only a third more power, by the way, you secure many other advantages in this famous machine . . . trouble-free operation, a better, more uniform product, etc. Write for complete details.

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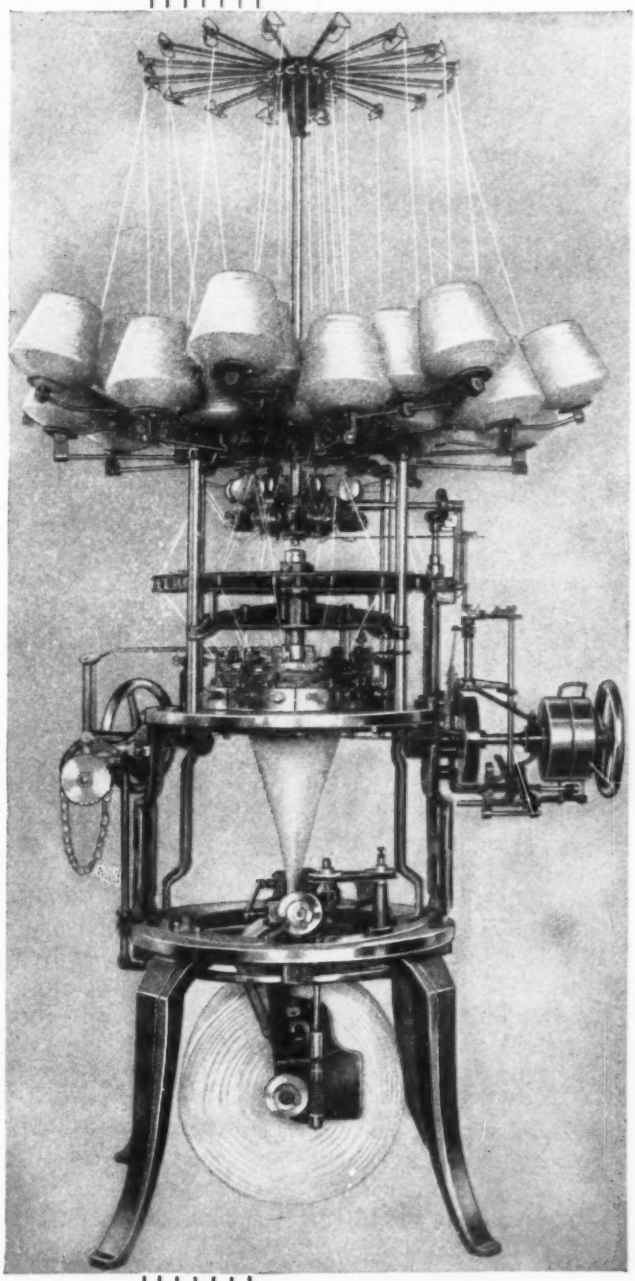

WILDMAN MULTIPLE FEED RIB MACHINE

★ FOR AMERICA

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AMERICAN INDUSTRIES SALVAGE PROGRAM

midification system by which a relative humidity of 68 to 70 degrees could be constantly maintained. Other suggestions would be: Store surplus yarns in a building in which the temperature is kept uniform and in the original packing when possible. Place the yarn bins in the knitting room as far from the windows and with as much protection from the outside weather as can be arranged. Do not remove yarns from packing in which they are shipped until they are ready for use.

CONTRIBUTOR NO. 7375

Understudies—Who Hinders Them?

Who is really helping understudies, and who is discouraging them? Read this, and then answer. If it sounds bitter, perhaps that is because the truth is not always sweet . .

EDITOR COTTON:

On page 232 of the October issue you published a little item on understudies, credited to "Management Information," of Elliott Service Company, Inc., which I recognize as an authority on employer-employee relations. This item said in part: "Some foremen are afraid to train an understudy for fear that he may grow up into their jobs. If you have as little confidence in yourself as that, the chances are that somebody will get your job one of these days anyhow."

Very true, indeed. But, who is responsible for such foremen, and why do they take this attitude toward an understudy or an ambitious employee?

After many years of association with hosiery mill employees, and careful observation and study of plant management in this branch of the knitting industry, I have definitely concluded that the management is responsible for the jealous and jittery foremen, and the main reason they fear the progressive understudy is they are conscious of their own weakness and lack of practical judgment. The time-seasoned hosiery mill foreman who has come up from the bottom, one rung at a time, who is still interested in his job for the job's sake, is still learning about his work by observing new methods and mechanical improvements and browsing through the trade journals for new ideas, and eager to attend the exhibitions and conventions to find out what is new in his line—this fellow has no time to look upon his ambitious subordinates with a wary eye. It is only the foremen who try the short cuts to the dignified positions by buying their jobs with a few shares of stock in the corporation, or those who owe their assumed status to family or social connections with the Old Man in the front office who are afraid of their jobs.

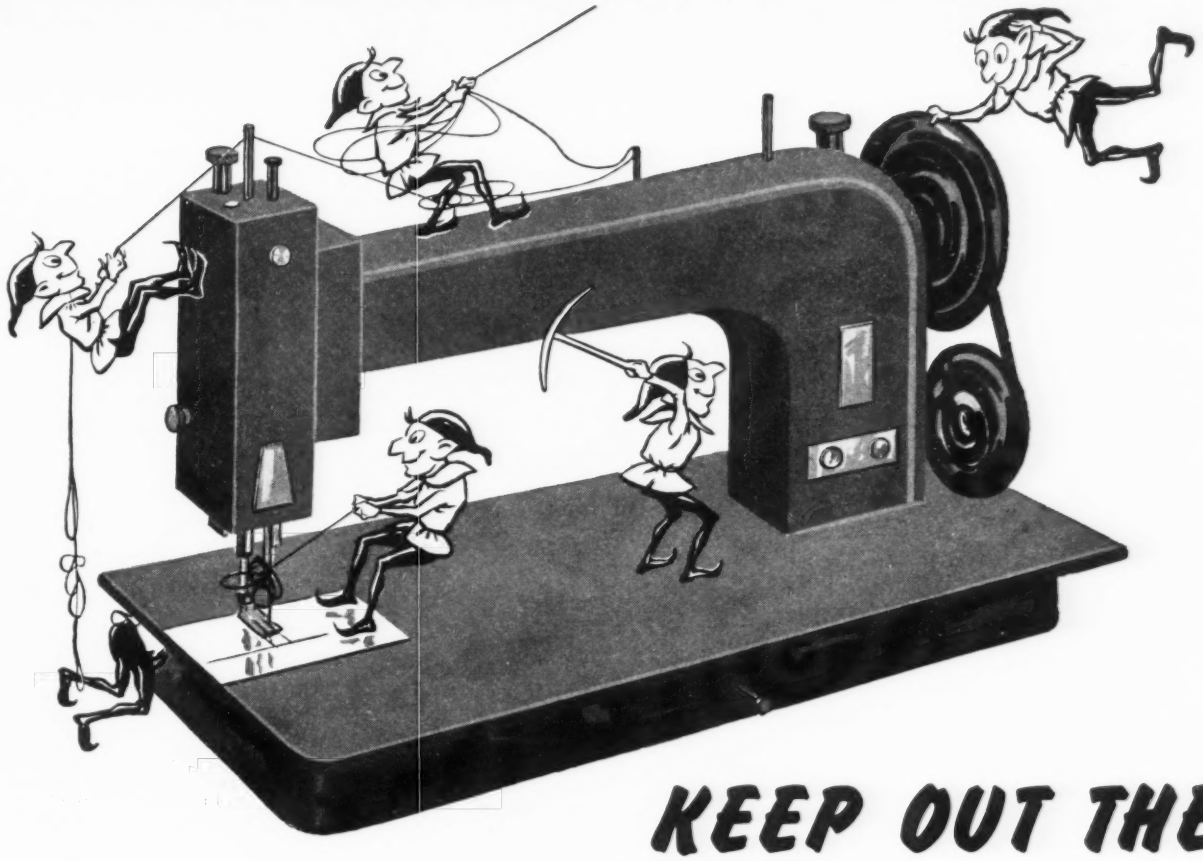
Hosiery mill executives and mill owners are always complaining because younger employees in the mill are not interested enough in their job to qualify as understudies. Yet, some of these very executives who complain about the younger generation being interested only in payday and a good time merry-making, and only interested in their jobs as a means toward this end, are discouraging youthful ambition by placing their in-laws and distant relatives over more capable and deserving employees. Unwittingly, perhaps, but the fact remains.

With but few exceptions, every employee in a hosiery mill wants to get ahead. Most male knitters would like to become knitting machine fixers; some loopers and grey goods inspectors hope to be a head inspector some day; the humble laborer loading and unloading dye kettles and the centrifugal extractor in the damp, fog-laden dyehouse perhaps would like to know how to mix dyes, build up the dyebath and sample for correct shade.

All of these employees are willing to stick to their jobs long enough to absorb practical judgment born of observation and experience, if they know that long and consistent faithful service will be rewarded by promotion. But when they see their employer is clannish, is biased in his preferences—has that "synthetic-foreman" complex—it is only natural that the average employee of average ambition would become discouraged and take that what's-the-use attitude.

I recall a southern planter who invested some money in a small hosiery mill some years ago. The prosperous planter has a strapping son with an idea that he was too sophisticated to follow a team of mules up and down a tobacco field all day. So, by virtue of his father's financial interest in the mill, and despite the fact that he had never been in a hosiery mill in his life and did not know the difference between a looper and a ribber, the pampered son was allowed to learn to fix circular hosiery machines on the assumption that he would have the natural incentive to become proficient for the sake of his father's interests in the corporation. But this theory failed to materialize. The "synthetic fixer" never became a very good maintenance man, and it cost the stockholders of this mill more to break in this young "colt" than the wages of an ordinary experienced fixer would have amounted to in six months. And the knitters of that day, if they had been given half the chance the strapping son was given, would be fixing machines at the benevolent father's mill now and protecting his dividends by keeping seconds, thirds and waste to a minimum instead of keeping lines of machines in tip-top shape at a competitive mill.

In another case, a knitting room foreman took a woman of questionable character off the streets, and nominally made her head inspector. Of course the foreman didn't want to do this, but he had made the mistake of becoming too intimately acquainted with the wrong woman, and his secret lover "held a club over his head," and he was afraid not to do her bidding lest she spill the dirt before the little woman at home and start the tongues of gossip mongers to wagging. So, just as Father Adam was driven from the Garden of Eden for listening to the whims of a woman, it was only a question of time until this boss knitter was virtually driven from the hosiery industry. He is now dispensing beer at a pool hall; and the duty of looking after the clipper girls, the looper operatives and the grey goods inspectors has finally gravitated to the shoulders of a more responsible woman with a favorable background.



KEEP OUT THE GREMLINS

——GREMLINS WILL GET IN SEWING MACHINES TOO! —IF YOU DON'T USE GENUINE PRECISION-MADE PARTS

Every Gremlin in your sewing machines is taking something away from your production... Power is wasted... Repair bills are boosted... Meeting deliveries are increasingly difficult... Costs are raised... Product standards are lowered.

Seventy per cent of American machine equipment is slower and more costly to operate than modern machinery would be according to reliable estimates.

Keep your sewing equipment up-to-date with genuine precision-made parts, and by proper lubrication. You can still get genuine "W&G" and "Metropolitan" parts in reasonable quantities.

"W&G" Technical Experts, backed by an organization with 84 years of experience in producing precision-built sewing machines and parts for the textile trades, will gladly assist you in the proper upkeep of your present sewing equipment.

Telephone, telegraph or write to the nearest "W&G" Branch Office or our General Offices.

A machine is only as good as its component parts

WILLCOX & GIBBS SEWING MACHINE CO.

214 West 39th Street, New York, N. Y.

As an example of clannish influence, a nephew of the superintendent at a hosiery finishing plant who had heard of the exhorbitant profits on hosiery back in the "golden twenties," was placed in charge of the dyeing. The only qualification this young man had was an elementary knowledge of textile chemistry he had gleaned after struggling through two years at a technical college. And while his technical knowledge might have been useful as a foundation for future ability, he lacked knowledge of details and local conditions for sound judgment which can only be acquired through practical experience. The last I heard of him, the pairers were sending expensive lots of ladies' hosiery back to the dyehouse to be re-dyed because of off-shades that would not pass for the colors specified on the order sheets or match the samples on the color card. The only reason for this inefficiency was his feeling of security as a member of the superintendent's clan.

Now, wouldn't it be nice if unskilled employees would just naturally assume the attitude of understudies without any coaxing, pinching or prodding by the executives? Well, this can be done by making the working agreements favorable and removing the obstacles. How? Why is it that grass will grow in the meadow year after year without cultivation, and furnish "Bossie" with succulent morsels as she placidly grazes near the babbling brook? Because the soil is favorable for growing this kind of grass, and there are no saplings to draw the nourishment from the green carpet of foliage.

In any industrial establishment, hosiery or otherwise, where it is clearly understood that the plant promotes employees for the faithful performance of duty, the environment is favorable for encouraging understudies who will, with but few exceptions, naturally grow into more responsible positions. And as long as the management of industries tolerates makeshift, synthetic foremen and minor executives, who take the attitude that they are holding their position by divine right, the "soil" will not be productive, and the efficiency expert's dream of a continuous crop of understudies will not materialize.

JULIAN W. HUGHES

Causes of Excessive Fatigue

Normal fatigue must be expected. It is the *excessive* fatigue, or the undue fatigue, that we must be concerned about. Under today's conditions there are many things which tend to increase that tired feeling among workers. Many of our workers are spending long hours on the job. They are putting in lots of overtime. They are not having quite so much opportunity for rest and recreation.

The way men use their time off the job has much to do with excessive fatigue. Men who do not get adequate sleep or who dissipate cannot expect to return to the job rested and alert.

Unnatural work hours and switches from day to night shifts also frequently result in a tired feeling on the part of a worker until his system is adjusted to the changed hours.

Men who are not interested in the job they are doing tire more rapidly. Interest in a job actually reduces fatigue. Of course, the very nature of some work makes it strenuous, intensive or confining.

Personal worries and outside problems carried over onto the job cut down a man's resistance to fatigue. It is easy to understand that many of these causes of excessive fatigue are unusually prevalent today.

Everything that a supervisor can do to eliminate causes of fatigue on the job will help make the safety record better. Keeping the work place at a healthful working temperature, well ventilated, and properly lighted, is a great help. The use of mechanical devices to save muscular work reduces fatigue. Careful arrangement of working hours and opportunity for normal rest will cut fatigue.

Supervisors who are tempted to try to get out more production by pushing and hurrying workers will find that better results may be obtained by improving job methods. Thus, with the same expenditure of energy, equal or increased output may be obtained. Men and women working at sitting jobs should be provided with chairs or stools designed to reduce fatigue. Unnecessary walking, lifting and bending should be eliminated.

Anything you can do to make the job simpler, easier and less monotonous will have the desired effect in reducing that tired feeling.

Nervous strain can be reduced by the right kind of considerate supervision. This is an important factor which you, the supervisor, can definitely control.—*Management Information, Elliott Service Co., Inc.*

Safety Instructions for Elevator Operator

WORK OF ELEVATOR OPERATOR: He operates the elevator; carries materials from one floor to another; pushes boxes and trucks of cloth on and off the elevator; loads and unloads freight on the elevator.

RUNNING ELEVATOR: The safe elevator operator avoids injury on his job by doing the following:

(1) He sees that all elevator gates are kept down.

(2) He makes sure that the elevator is fastened level with the floor before loading same.

(3) He doesn't undertake to carry passengers on a freight elevator, for he does not want to be responsible for an accident.

(4) He sees that no one operates the elevator except himself and others trained for the job. "You are Captain of this Ship—See that no playing or unsafe conduct goes on in same."

(5) If the elevator is out of order, he does not operate it; he reports the defects to his Overseer at once.

(6) He knows the safe Capacity of his elevator and does not overload it.

(7) Before starting the elevator, he makes sure everybody is away from open edges of platform. Shaftway doors or gates should be closed; he does not step off until elevator has stopped.

(8) He does not put out his hands or grab at anything in the shaftway while the elevator is in motion.

(9) If hand trucks or other objects are liable to shift, he sees that they are blocked while in the elevator.

(10) Before opening shaftway doors or gates, he makes sure the control is in neutral and the elevator is stationary and level with the floor landing.

(11) He does not attempt to reverse the motion of an elevator without first bringing it to a full stop; this places a great strain on the mechanism.

(12) Before leaving elevator unattended, he always throws main switch or locks the control cable, or closes doors or gates.

(13) Before pulling the cable to bring a cable elevator up to the floor he is on, he rings the bell signal and makes sure no one is about to open the gates to enter the elevator.

(14) Before large, bulky objects are loaded or unloaded from elevators, he sees that the safety switch is pulled out or the cable latch locked. (Exception permitted on those elevators which cannot start until shaftway gates are closed.)

(15) He does not operate an elevator while inspection, repairs, or adjustments are in progress, except as those making inspection or repairs may direct.

(16) If the power goes "off" while the car is in motion, move the operating device to the "stop" position and start the car in the usual manner upon return of the power.

(17) He never stands near an elevator shaft while waiting for an elevator; he stands back at least three feet from gate.

(18) He reports all broken wires on skipper cable and any unsafe conditions about his elevator.

(19) He makes sure belt goes all the way on tight pulley when going up or down. He has his elevator inspected regularly.

(20) He keeps his mind on his work and avoids hurrying.—*"Textile Safety", National Safety Council, Inc.*

Young by the count of his years, but matured by the weight of the fears he has choked in the vise of his valor, this boy—a little homesick perhaps in his lonely vigil—is the symbol of the millions who will see their first star-shell.

What is he thinking about, out there in the sullen stillness of his post? Whatever it is, you may be sure it has something to do with the life, the people, the plans he left back here. They are a mental magnet to his thoughts—revised occasionally as he ponders what he will come back to.

If the pace of production has been maintained, if enough bonds have been bought, if more than words has been devoted to post-war plans, he will come back to feel his contribution has been worthwhile.

It is up to us, here and now, to discharge our obligation to him by producing more, by investing in bonds, by planning for the pent-up, unrationed needs of that day.

If new special-purpose machines are part of your post-war plans, you will want to send for a copy of "Facilities."

ARMY E NAVY

Builders of Textile Machinery, including Circular Knitting Machines, Skein Reelers, Backwinders, Fidelity-Rolandé Course Counters and Universal Ribbers

32 YEARS' EXPERIENCE

FIDELITY MACHINE COMPANY

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TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Rayon Hosiery Ceiling Prices Named in OPA Order—Branded Lines Cut Sharply, Drawing Criticism from Manufacturers—Increase in English Spun Cotton Yarns for Rayon Hose Likely —Standard Specifications for Knitted Underwear Submitted —Army Will Need More Underwear This Year

Philadelphia, March 16, 1943

OFFICE OF PRICE ADMINISTRATION announced March 8 that on April 15 new standard prices will go into effect on women's rayon stockings. Cuts were considered drastic by manufacturers of such lines who are confronted with many increased cost items together with numerous other wartime difficulties in getting out goods. Opposition came especially from makers of branded goods who saw their current prices cut as much as $1 to $2 per dozen. The order, MPR 339, has been awaited by the hosiery trade for many weeks in view of the fact that bulk of the goods now being made are rayon as evidenced by data for 1942 showing that out of 35,579,708 dozen pairs of women's full-fashioned made last year, 22,238,864 were rayon. Cotton full-fashioned totaled only about 10 per cent of the rayon. In the underwear field, production continues at peak rates and leaders in the field as well as military procurement officers are predicting that demand in 1943 will top the record totals of last year so the civilian trade is apt to be hard-pressed to obtain merchandise.

Full-Fashioned

The long-awaited OPA ceiling rules for rayon full-fashioned women's hosiery were announced March 8, setting levels at which such lines, beginning April 15, can be sold by manufacturers, wholesalers and retailers. The order, MPR 339, was accompanied by an announcement, evidently intended for consumer consumption, stating that it would mean an approximate saving of $50,000,000 a year to American women, as the result of cuts of five to 40 cents per pair, adding the new retail levels will represent reductions of 15 per cent in annual retail purchases of women's rayon hose valued at more than $300,000,000. In line with the OPA move it is reported in the trade that the War Production Board shortly will issue a hosiery order to simplify the number of styles that manufacturers may make. It is admitted in the trade the latter move might result in some lowering of manufacturing costs but immediately following the price ceiling release there was much unfavorable comment from makers of full-fashioned goods. The OPA list for consumers set the price for 51-gauge goods at 93 cents to $1.05 beginning April 15 compared with recent retail tickets on the same of $1.15 to $1.35 with other gauges showing important reductions also. Makers of such goods have been informed unofficially that they may in the second quarter of this year expect to obtain a much larger poundage of English spun fine count cotton yarns that are released on a quota basis for re-inforcing the welt and feet of women's rayon stockings, estimates being this may represent an increase of about 50 per cent compared with the poundage of such yarn allotted during the first quarter. Last year full-fashioned mills used 31,000,000 pounds of rayon yarn which produced about 25,000,000 dozen pairs of stockings of which about 22,250,000 dozen pairs were listed as rayon, the balance being a combination with other fibers. During 1942 shipments of all full-fashioned declined 16.6 per cent compared with 1941.

Half-Hose

There is an active consumer demand for most types of half-hose and manufacturers of such lines are generally busy not so much with civilian types in numerous instances as they are with military orders, especially for the Army Quartermaster Depot here which has been buying large amounts. Involved have been both the summer type made of ply mercerized yarns and also the part-wool type with the yarns mainly spun on the cotton system. The large quantity of military half-hose bought in recent months is to be seen from the data covering 1942 showing gains of 6 to 7 per cent in the cotton and wool types of such lines over the preceding year. Retailers here report a good volume in such lines in the medium-priced brackets. There is a good volume also in the short length socks, slacks and in a recent month shipments were more than 18 per cent above those for the same month a year previous. There were fewer rayon half-hose shipped last year than in 1941 although total shipments of all varieties were up 2.1 per cent.

Seamless

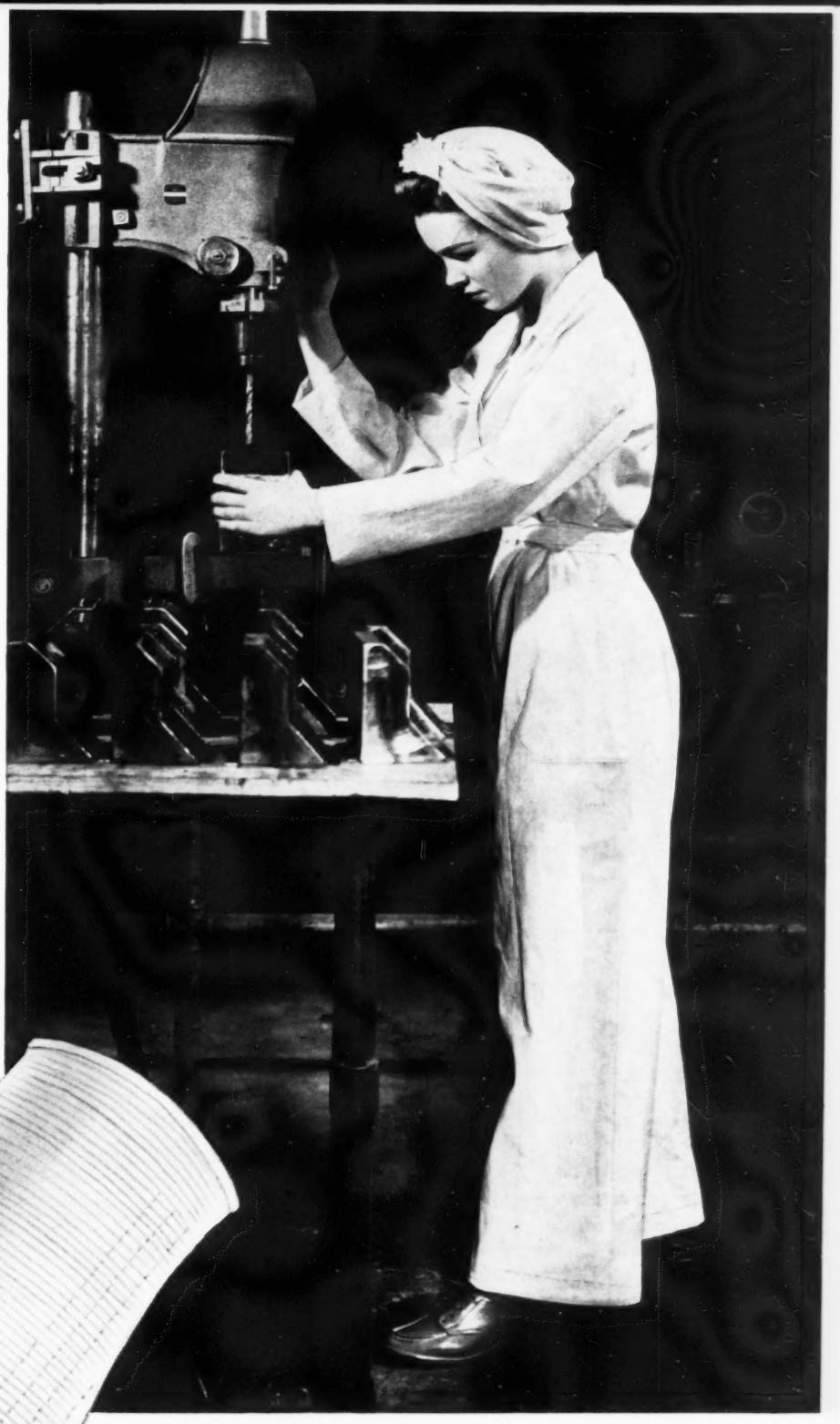
Although trading has been at a fair level, manufacturers of women's seamless say there has been no boom, which is also borne out by data covering recent months showing a small decline in shipments of such lines while during the entire year 1942 such shipments fell 7 per cent compared with 1941. Anklets are in good demand and over the last year have averaged 12 per cent larger than over the same weeks a year previous. They are worn now by war workers who wear slacks which has stepped up sales in war industry centers. Children's and infants' hose trading does not quite come up to volume of a year ago and recent data show such shipments as about 20 per cent off while the same for the entire year of 1942 registered a drop of almost 7 per cent compared with 1941. Sales of women's bareleg types of seamless have been larger.

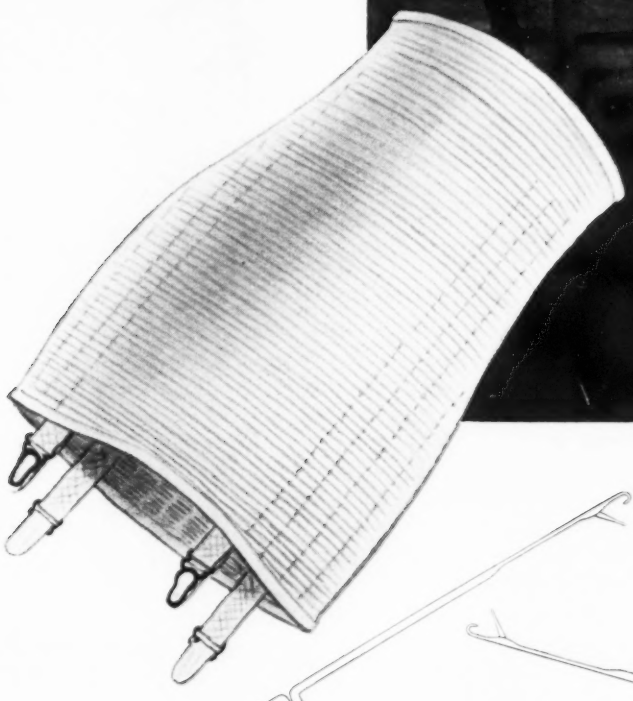
Underwear

Reports of knit underwear manufacturers representing about 82 per cent of the industry, show production last year was 29,381,239 dozen garments compared with 28,335,223 during the preceding year. There was a sharp increase in the output of polo shirts; a minor drop in silk and rayon underwear production and a decrease also in underwear made from cut woven materials. There is no question but that this industry did a good job in the face of difficulties in meeting huge demands from the armed forces together with an abnormal civilian demand. Even though this good record was set in 1942 there are indications the present year will see even larger demands from the armed forces so that many are predicting in 1943 there will be less for civilians.

A favorable factor in this connection and one that may have an important

Busy women today select their foundation garments with a critical eye. To meet their demands, such garments must possess the proper degree of vertical and horizontal stretch, since both comfort and correct support for the figure depend upon this quality. The extra fine temper, smooth finish and accurate measurements of Torrington *Machine-Made* Needles help to maintain the right tension of the knitting machines in producing merchandise of this type. Let Torringtons help you gain greater control over the accuracy of your machines in this work—and in all work that demands precision.

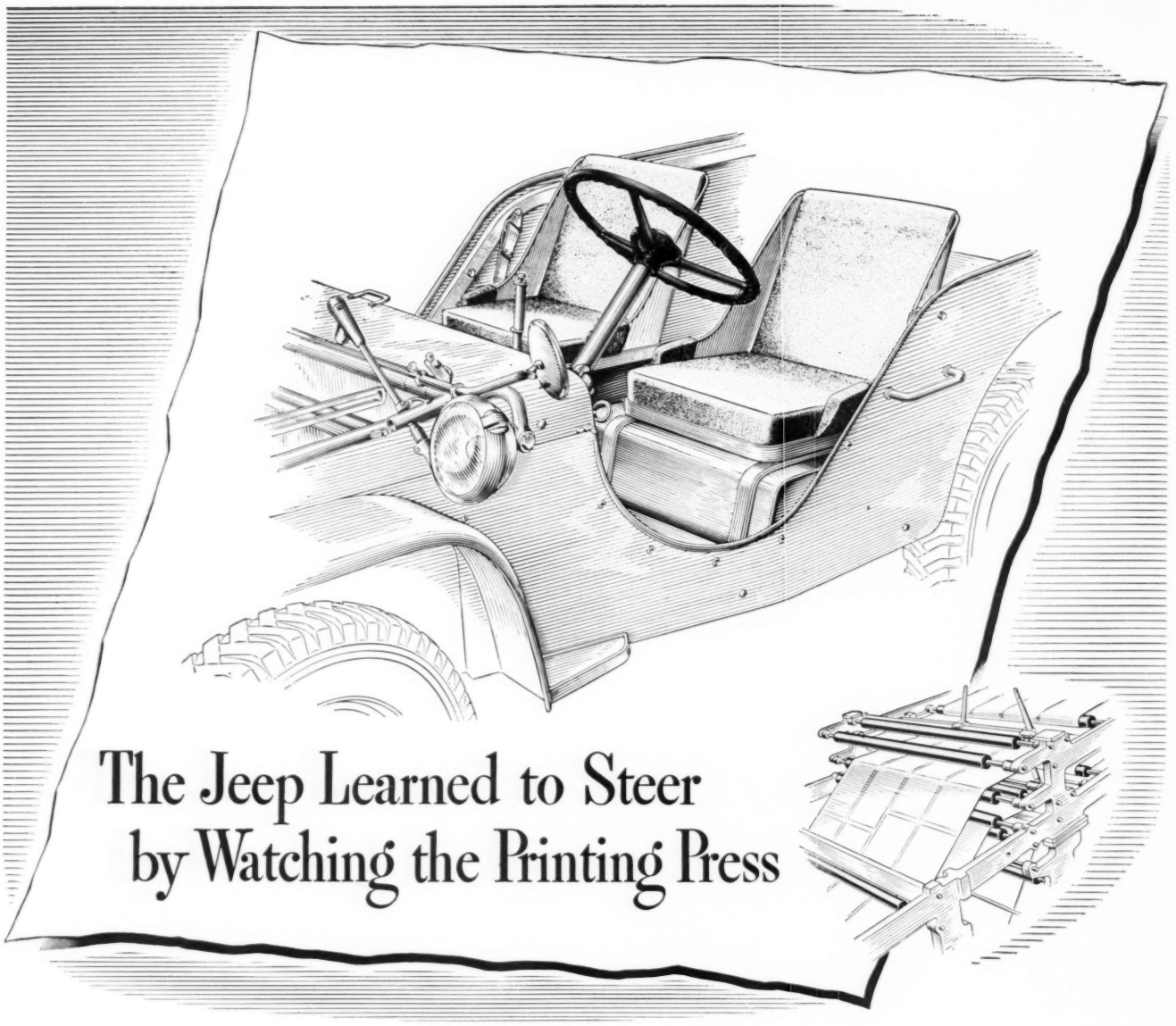




TORRINGTON latch NEEDLES

The Torrington Company, Torrington, Conn., U. S. A., Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. • Boston • St. Louis • Toronto, Canada



The Jeep Learned to Steer by Watching the Printing Press

IT'S TOP-SPEED operation hour after hour in a printing press—no leeway for breakdowns that might delay the newspaper on its way to the waiting delivery trucks. So printing press makers picked the Torrington Needle Bearing for its ability to operate successfully in high-speed service, with little need of attention.

There's no question of high speeds in the steering column of a jeep, of course . . . just an occasional turn through a fraction of a revolution. But that point of long life with little attention looked just as good to the jeep builders as it did to the press manufacturers. They, too, turned to the Needle Bearing, not only for its ability to stand up in severe service, but for its low friction coefficient that gives quick response to the steering wheel, its small size that contributes to compact design, its effective system of lubrication, its ready availability for all essential applications.

THERE'S A THOUGHT HERE FOR YOU TO CONSIDER when you start the design of your post-war products. Whether your problem is one of oscillation or of high-speed rotation, the Torrington Needle Bearing will give your customers the advantages of dependable operation, efficient lubrication, low starting and running friction. And of course, *you* will benefit by the Needle Bearing's low cost and ease of installation. You can get the preliminary information you will need by writing for Catalog No. 115, which lists sizes, rates, and typical applications—and Torrington engineers will assist you in working out specific service problems.

THE TORRINGTON COMPANY
Established 1866 • Torrington, Connecticut, U. S. A.
Makers of Needle and Ball Bearings
New York Boston Philadelphia Detroit
Cleveland Seattle Chicago San Francisco
Los Angeles Toronto London, England

LET'S GO! U.S.A. KEEP 'EM FLYING!

TORRINGTON NEEDLE BEARINGS

KEYED TO TODAY'S NEEDS

AND TOMORROW'S TRENDS

bearing upon increasing output was the new order of the War Production Board limiting the number of styles that such manufacturers may, beginning April 1, manufacture, it being estimated that the order made a cut of 75 per cent in this regard. In recent months manufacturers have been doing a great deal in regard to style simplification so that the order already had the advice and co-operation of manufacturers working through the Underwear Institute. Compared with about 4,000 different items made January 1, 1942, this was cut to 1,200 by the industry and now the WPB order means about 460 items. This will cut down cost items for knitters, reduce the number of styles that wholesalers and retailers must carry and yet most agree that it will not cause any hardship among consumers except so far as high style or so-called luxury items go. The industry does not look for announcement of new ceilings by OPA for several weeks, it being felt it will take some weeks for it to base its prices on the new standard styles. Army demands have been heavy in recent weeks and activity continues in civilian numbers beyond ability to satisfy.

OPA Drastically Cuts Rayon Hose Prices

Maximum prices for women's full length rayon hosiery at manufacturing, wholesale and retail were established March 8 by the Office of Price Administration in Order No. 339 which becomes effective April 15. Prices are set in it for all conventionally knit rayon hosiery on a basis of quality as well as gauge. Minimum specifications are provided for Grade "A" hosiery which are intended to utilize all of the productive facilities of the trade and in an announcement at the same time, OPA estimated the ceilings would result in a saving of $50,000,000 a year to American women as the result of reductions of from 5 to 40 cents a pair. The statement also added the new prices would represent cuts averaging 15 per cent in annual retail purchases of women's rayon hosiery valued at more than $300,000,000. The order is one of the most carefully drawn price regulations ever issued by the OPA and it established two grades of rayon hosiery, "A" and "B". The "A" grade specifies features to strengthen the life of the hosiery such as reinforcements in the welt and foot and all hosiery which fails to meet OPA's standard for Grade "A" will be in the Grade "B" category.

Prices on Grade "B" stockings are to be about 10 per cent less than Grade "A" until July 16 and 25 per cent after that date. The two dates on Grade "B" prices were set to give manufacturers and retailers time to get rid of the inferior types if they so desired. For Grade "A" hose the retail prices beginning April 15 would be as follows: 45-gauge full-fashioned will then be from 81 cents to 92 cents compared with recent retail levels of $1.00 to $1.15 per pair; 51-gauge full-fashioned will be 93 cents to $1.05 compared with recent prices of $1.15 to $1.35 per pair; while 340-needle bareleg type stockings will be 47 cents to 54 cents per pair compared with 59 cents to $1.00 per pair, the range recently prevailing.

FORECAST

(Opinion submitted by COTTON's Market Correspondent)

Philadelphia, March 16, 1943

WITH ITS THINKING along these lines accelerated by the new and more critical Congress, there are indications that the Administration is about ready to take new action in the way of price regulation as recently carried out by OPA. There are signs that the scope of this agency's price regulation may be greatly curtailed, and also that the profit motive will be given more of a chance than it has had under current ceilings, with no brakes on labor and commodities to speak of. While industry in the United States, all will agree, made a phenomenal effort in the production of goods just prior to and during the war to date, there are many who say that the wonderful record would be even more amazing if it had not been hamstrung with so many impractical regulations and so many bothersome actions from Washington that had no relation to winning the war. Examples are: too many reports to fill out each month and anti-trust actions in wartime, and re-negotiation of military contracts.

But a new day appears here for industry. It has more than made up since Pearl Harbor all the "face losing", that occurred during the early days of the New Deal, from 1933 on. The average American felt then that business had gone to extremes during the 1920s in several respects but now this attitude has been changed by the record production figures of today and indications are the feeling toward business will be different for several years than it was during the early New Deal days when a businessman disliked to go near Washington, fearing the insults and general attitude of Government spokesmen. This change will be reflected in less legislation that is unfair to business but the "old days" are not due to come back. Profits will continue small and will depend mainly on larger and larger volume.

In another direction, business is figuring on what will happen should the war end suddenly. Most believe, the writer among them, that the period of painful changeover from war to peace production will be shorter than previously at such times and also that the period of activity thereafter will be longer than many expected. This will vary with the different industries. For example, there is apt to be greater demand in the immediate post-war period for automobiles and refrigerators than for underwear because during the war we have been able to get underwear. Nevertheless, textiles will follow the general pattern and participate in the activity in the post-war period. Many textile lines have been greatly curtailed by the war, such as nylon hosiery and carpets. Other lines will be made active by large domestic demand plus lend-lease shipments, even after the war, to our allies and probably to our present enemies.

Hosiery Makers Say Rayon Hose Prices Low

Since the publication March 8 of the OPA ceiling prices for women's rayon stockings the hosiery industry has been marshalling its forces to oppose features of the new order that are held to be not only objectionable but disastrous in some cases. Shortly after the order was issued the National Association of Hosiery Manufacturers urged against a hasty appraisal or action. President Earl Constantine, recognizing the complications of the order, said that each provision must be weighed in relation to other essential features of it. He said that generally speaking the regulation was in many respects inadequate and unsatisfactory, adding that this would be found not only by manufacturers but also by distributors. He pointed out that in recent months officers and directors of the association had been in contact with the OPA, explaining facts relative to the industry's production and marketing of women's rayon hosiery.

He recounted the special hardships of the industry in the loss of real silk and then nylon as raw materials, saying that hosiery manufacturers took up the production of rayon hosiery with the many difficult problems that the adaptation of such yarn required. President Constantine pointed out that manufacturers are entitled to a price structure that is adequate to cover their costs and which furnishes them a reasonable margin on which to service the market with their product. The association thereupon scheduled a meeting of the board of directors for March 17 with other associations invited such as the Southern Hosiery Manufacturers Association, the Full-

Fashioned Hosiery Manufacturers of America and the Keystone Hosiery Manufacturers Association. The new ceiling will result, mills estimated, in price cuts of as much as $1.55 per dozen pair at the mill.

Union Joins Rayon Hose Ceiling Fight

American Federation of Hosiery Workers has been co-operating actively with manufacturers to have the ceiling on rayon women's hosiery raised. James W. Batz, president of Branch No. 10 of the union, said in this connection, "The present ruling will work an extreme hardship upon manufacturers and the union cannot see how the 48-hour week could be placed in effect if the order stands as now issued." According to other union officials it had been considered likely that a wage increase would have been demanded this spring from plants with which the union has contracts, to match the increase in the cost of living. This proposed increase, which was to be 20 per cent, according to one report could hardly be demanded if the present ceiling on rayon hosiery is maintained. In view of this the American Federation of Hosiery Workers has been co-operating actively with all manufacturers whether operating contract or non-contract mills to have the ceiling raised. A union representative said, "We would be lucky if we didn't get a cut in pay instead of getting a wage increase, if these new ceilings stand."

50 Denier Rayon Hose Ban Worries Industry

The latest and most costly equipment now operating in the full-fashioned hosiery industry would come to a standstill if the WPB carries out its reported intention of eliminating 50 denier rayon yarn in its simplification program now being considered. Manufacturers state that following the OPA rules in its Order No. 339 effective April 15, relative to the use of 50 denier, such fine gauge machines would have no place in the field if the 50 denier yarn were eliminated. There are approximately 1,200 machines of 51-gauge and finer operating at present which cost about $25,000,000. During 1942 few machines other than 51 gauge or finer were purchased by the mills.

Knit Underwear Styles Sharply Cut by WPB

War Production Board in its Order No. L-247, effective April 1, imposed controls over the production of men's, women's and children's knit underwear, reducing the number of styles and fabrics by approximately 75 per cent compared with a year ago and also limiting the number and kind of fabrics which may be used in making each permitted item. The order which is the first one to affect knit underwear will result, according to WPB, in each manufacturer concentrating his output on relatively few styles and fabrics for which his facilities are best suited and at the same time will permit maximum utilization of available manpower, facilities and raw material for all military and essential civilan needs. Models of knit underwear are not specified and manufacturers may continue to produce models they made in the past so long as they conform to the limitations of the order.

With a few exceptions the order eliminates almost completely all decorative trimmings on knit underwear which do not add to the serviceability of the garment. Rayon striping in any form is banned while rayon content in men's shirts, shorts and union-suits and in all types of infants' knit underwear must be less than 50 per cent of the total fiber content. WPB said that to assure the most efficient use of rayon, the weight of circular knit rayon fabrics used in the production of knit underwear was placed under control. Based on a 36-inch width such rayon fabrics must not be lighter than 6 yards per pound or heavier than 3.5 yards per pound. It was said that with fewer types of underwear being manufactured inventories of mills, jobbers and retailers will be reduced by approximately 1,500,000 dozen garments which will move into the hands of the consumer. Exempted from the provisions of the order are sales to the armed forces.

English Hosiery Yarns Slow to Arrive

At the beginning of this year it was announced that negotiations had been completed between this country and Great Britain providing for the importation of fine count English spun cotton yarns for use by American manufacturers of rayon hosiery. At that time it was believed that between 4,000,000 and 5,000,000 pounds would be brought in each year to be used by such manufacturers in the welt and feet of women's rayon stockings. But reports up to the present from such knitters are that very little, if any, of this type yarn has been brought in as yet and several mercerizers who were named to act as distributors to the domestic hosiery trade reported in the last few days that they had not yet received any of this although they considered it likely that a sizeable amount of this yarn would arrive very shortly. One of the factors which must now be considered in this connection is the new rayon hosiery ceiling prices of OPA that become effective April 15.

The original War Production Board order relating to the importation of such yarn stated that hosiery manufacturers using it in the welt and feet would not be able to increase the hosiery price through any additional cost brought about by the use of such yarn. Hosiery manufacturers now point out that this English yarn is priced considerably higher than their last quotations from American spinners so that they foresee considerable difficulties in the use of this higher priced yarn in view of the rayon hosiery ceilings. It is hoped that this matter will be quickly adjusted because cotton yarn importers call attention to the fact that during the last few weeks English spinners of such fine cotton yarns have been doing considerable preliminary work and studying so that they could supply the domestic trade and they just now are reported to be getting in a good position to ship us the specified quantities of such yarns.

Knit Underwear Output Increases in 1942

Reports from 208 manufacturers show that production of knit cotton and wool underwear increased from 28,335,223 dozen garments during 1941 to 29,381,239 dozen garments during 1942; polo, tennis and basque shirts, knit fabric increased from 1,277,678 dozen garments during 1941 to 1,843,092 dozen garments during 1942; knit rayon and silk underwear decreased from 6,164,007 dozen garments during 1941 to 6,054,871 dozen garments during 1942. Production of these manufacturers in a recent year represented 82 per cent of the value of cotton and wool underwear; 48 per cent of the value of circular knit rayons and silk underwear and 59 per cent of the value of warp knit rayon and silk underwear.

Reports Up-State Area Gains at Phila. Expense

The *Hosiery Examiner*, official publication of the Berks County Hosiery Employees' Association, asserting that Philadelphia is virtually a closed shop center in so far as full-fashioned hosiery production is concerned, declares that the Reading area of Pennsylvania is moving far ahead of its rival, now employing 10,000 workers against Philadelphia's 7,000 workers. There was a time ten or twelve years ago, this publication states, that Philadelphia had the rightful claim to be called the full-fashioned capital of the world. At that time its mills gave jobs to about 18,500 workers whereas Reading had about 15,000 to 16,000 full-fashioned workers. "But the scene has shifted. Philadelphia's losses in mill removals,

FOR G. I. Full-Fashioneds—

LAUREL EMULSIONS, OILS AND FINISHES FOR RAYON AND COTTON

It's a new era for cotton and rayon full-fashioneds ... they're in the Army now. It's a new era, too, with new problems for finishers, but Laurel Oils and Finishes can simplify their full-fashioned processing. Available for immediate delivery.

Laurel Emulsions give more even cotton yarns, clearer stitch and proper regain.

Laurel Rayon Oils and Finishes help control rayon twist and stretch, prolong the life of the fibers.

Laurel Hosiery Finishes produce the smooth finish that is the pride of the American woman whether on parade or promenade.

Send for trial order and formula today.

SPEED VICTORY—BUY WAR BONDS

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WM. H. BERTOLET'S SONS *ESTABLISHED 1909*
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WAREHOUSES: PATERSON, N. J., CHATTANOOGA, TENN., CHARLOTTE, N. C.

liquidations and movings have been considerably greater and faster than have Reading's and about four years ago Reading overtook Philadelphia in full-fashioned hosiery production." The publication sees a close parallel between the actions of hosiery unionists and the removal or closing of so many Philadelphia plants.

Underwear Mills Facing Record Output Challenge

Ralph M. Jones, president of the Utica Knitting Co., and chairman of the executive committee of the Underwear Institute, declared that this year the underwear manufacturing industry is confronted with the greatest production challenge in its history. This test can be met successfully, Mr. Jones added, but only if Government agencies concerned with the regulation of the industry discontinue measures that force curtailment of output. He said if this abnormal demand is to be met every available machine must be operated at capacity. Already more than 50 per cent of the production of underwear is going to the armed forces and lend-lease, with some mills now working 80 per cent on war orders. Mr. Jones said with a larger army in prospect even larger amounts of underwear will be needed as the war goes on. These manufacturers have had to solve very difficult problems to satisfy army and navy demands. An example of this was the sudden decision to change the color of army underwear from white to olive drab.

This step was taken in order to camouflage our troops as much as possible but it caused serious dislocations in the spinning of yarns and the knitting of such garments. It also required a considerable burden to be placed on the commercial dyers and finishers of underwear and cotton yarn but the Government has been making allowances to bidders who quoted originally on white garments, covering the additional cost. Even so the change was a serious one but new invitations coming out from the local Army Depot are specifying olive drab underwear so that from now on the cost of this added process will be included in the bid. High tributes have been paid the industry by procurement officers of the army and navy for its success in solving such problems, aggravated as they are today by labor shortages and their inability to obtain many types of equipment.

Hosiery Group Elects Davis

Joel Baily Davis of Joel Baily Davis, Inc., Philadelphia wholesalers, is the first president of the recently-formed Hosiery Wholesalers National Association. S. Fred Newmark of Goldmark Hosiery Co., New York, acting chairman of the group, was named chairman of the board of directors. Vice-presidents chosen were Gus Edelstein of Gus Edelstein Bro. & Co., New York; Copal Levin of Dainty Dot Hosiery Co., Boston, and Daniel Newman of A. Kommel & Sons, New York. Milton N. Grass of Stylecraft Sales Corp., New York, was elected treasurer, and Leo Guzik, counsel and executive secretary.

Mill Men See Dressy Sweaters Eliminated

It is believed in the trade that the chief effect of the War Production Board's request that knitwear producers simplify styles as much as possible to conserve materials and labor, will be the elimination of new dressy sweaters. Curtailment of trimmings on dressy sweaters will restrict the industry to classic, slip overs and cardigans, according to one producer who pointed out this may mean the loss of customers who have been attracted to sweaters by dressy styles. But others in the industry said that manufacturers previously had been simplifying styles so that they felt the War Production Board request would have little effect on the industry in general.

Gov't Buys Arcadia Plant

The Reconstruction Finance Corp. early this month announced that it had bought the property of the Arcadia Knitting Mills, Eighth and Harrison Streets, Allentown, Pa., for $1,332,500 under an agreement with Isadore Reinhard, president, David Reinhard, secretary and Samuel Reinhard, owners of the capital stock of the company. In addition to the plants and buildings the Government also bought all the machinery and equipment, trade fixtures and personal property. Yarns, finished goods, goods in process and dyestuffs were not included. The agreement, which was approved by Federal District Judge Harry E. Kalodner, brought to an end a dispute between the owners and the government over the original plans for a lease on the plant for the duration of the war, without the machinery and equipment or any other part of the company's manufacturing facilities.

Later it was announced Princeton Knitting Mills, Inc., located at Watertown, Conn., had bought the entire equipment of the Arcadia Knitting Mills, consisting of 1,400 machines, from the Defense Plant Corp., making the Princeton firm the largest knitting mill in the country. The announcement was made by Max Doft, president of Princeton, who said the purchase did not include the yarn and piece goods. With the newly-purchased equipment Princeton will have over 1,700 machines, by far the largest in the country. If the entire production was on rayon it would mean Princeton would have the equipment to consume 20,000,000 pounds of rayon yarn annually. Arcadia's consumption at its peak was in the neighborhood of 12,000,000 pounds yearly.

Sweater Shortage Seen Coming

With the popularity of sweaters growing tremendously, demand has outstripped the industry's accelerated rate of production, according to manufacturers. Greatest shortages have been reported in war industry towns where retailers report response even to the high-priced cashmere and Shetland sweaters is far beyond the available supply. Manufacturers say the future supply of sweaters is threatened by several factors: shortage of supplies necessary for sweater making; scarcity of machinery and machine parts, making repairs and replacements almost impossible to obtain; general shortage of labor due to demand of armed forces and war industry. There are several other factors which also enter the situation such as the quantities wanted for women in the armed services; large amounts for lend-lease; knitwear manufacturers are turning out 500,000 knitted scarfs for the Government as well as large stocks of knitting for camouflage; unlimited quantities of sweaters are wanted by the Government for relief purposes abroad.

Army-Navy Needs for Textiles at Peak?

Under-Secretary of War Patterson and Under-Secretary of the Navy Forrestal in a joint statement said that military requirements for certain fabrics should be slightly reduced during the current year. At the same time the navy issued a separate statement indicating that the buying pressure on its textile procurement divisions was being relaxed and that in the future it would require a smaller and more even flow of textiles. The Patterson-Forrestal statement said, "It has been possible since Pearl Harbor not only to take care of the increased inductions in the army and navy but also to accumulate textile reserves necessary for maintenance and replacement purposes. It appears therefore as of the present time that the cotton and woolen textile industry have in general achieved the maximum rate of production on military fabrics that they are likely to be called upon to provide during 1943. It is possible that military requirements of certain fabrics may be slightly reduced during the current year."

Correct processing helped sell this cashmere sweater just as much as smartness of styling. For without correct processing there could have been no soft fleeciness of fabric. That's why leading mills, converters, finishers, and dyers invariably insist on Colgate-Palmolive-Peet high-quality processing agents. And remember—in spite of material and style changes that may result from the war, C.P.P. processing soaps and detergents are effective on any type of fabric.

Ask your local C.P.P. man for complete information on Colgate-Palmolive-Peet wetting, fulling, scouring and dispersing agents, or write to our Industrial Department at Jersey City, N. J.

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TRENDS—YARN MARKETS

Sales Cotton Yarn Spinners Demand That OPA Raise Their Ceilings Due to Recent Sharp Cost Increases—Several Hit by Military Contract Re-negotiation—Supplies of Rayon Yarns for Civilian Trade Diminishing—Worsted Yarn Producers Find Help Scarce

Philadelphia, March 16, 1943

THERE IS a larger demand for all types of yarns than sales spinners can meet even though production totals have been reaching new highs in practically all types. But now the manpower problem is reaching a more acute stage so that such concerns are frequently reporting they are unable to maintain their former output rates and in some instances have to reduce operating schedules. This is reported by several cotton and worsted yarn producers. Some of the former say they have been forced to take off the third shift simply because they have lost help which is not replaced due to higher wages paid by several war industries and one worsted yarn spinner in this area reports it is unable to get help for more than one shift. Although it has gone from a 40-hour to a 50-hour week its output is about the same, indicating less efficient workers are now hired. Numerous makers of civilian goods, cotton, rayon or wool, state they are unable to place large new yarn contracts and spinners confirm this, adding they have no other course if military and lend-lease needs are to be met. In the meantime, price ceilings for spinners are in effect but their overhead is increasing due to war factors.

Cotton Yarns

Cotton and other items of cost for sales yarn spinners have been rising sharply in recent weeks and particularly since the first of this year so that such plants now declare that the OPA ceilings for both carded and combed yarns are much too low. This situation within the last couple of weeks has reached such an acute state so far as spinners are concerned that there is a serious lack of offerings coming into the market which is causing great difficulty among manufacturers making civilian goods and in addition there are indications that unless the matter is corrected it may also affect yarns going into military goods. So far there has been no great difficulty at the local army depot in obtaining sufficient goods so far as sales cotton yarns are concerned but during the last week a number of spinners have asserted that they cannot be expected to go on indefinitely supplying yarns at a loss.

Cotton has been advancing over recent weeks, increasing costs for spinners and particularly for those making coarse numbers. For example, producers of coarse count carded knitting yarns of better-than-average quality claim that they must sell their yarn at about the same price as spinners that use a cheaper cotton so that the better quality group claims to be selling at a considerable loss. In another instance, a large combed yarn producer, claiming that it is now selling coarse and medium sizes at below cost while the finer sizes are in a somewhat better position in this respect, asserts that it is selling 30s single combed at a loss of about five cents a pound. In addition to higher cotton costs, spinners' overhead has been raised considerably in recent weeks by the manpower problem. Spinners are losing employees who were skilled in their line to the war industries where higher wage rates prevail so that they are compelled to train new workers who are less efficient. They report being unable to secure enough workers to operate three shifts.

With such conditions prevailing in the supply end of the market, resulting in a serious drop in the quantity of yarn being offered, demand has been just as large as any time in recent months and in this connection reports are now beginning to come to light where deliveries on high priority orders are being delayed several weeks. This has been brought about by the manpower difficulties of spinners and also because of transportation delays. In this connection some large yarn operators in this section have adopted a new course and have rented warehouses at certain points in the South where they collect smaller shipments of cotton yarn until a fair-sized quantity is accumulated which is more easily delivered to the consuming center. Demand for yarns going into military goods which was smaller previously has now assumed larger proportions again, spinners now being engaged in trying to meet a very large call for yarns to go into camouflage cloth.

There are some estimates that this poundage will be around 20,000,000 with a large proportion of it being wanted in 20s two-ply carded for delivery over the balance of this year. So far concerns that have booked contracts for this cloth from military procurement officers report that they have not been able to obtain nearly enough yarn required and there have been instances where contractors have already taken orders for goods and have been unable to obtain more than a fraction of their yarn needs. The Army later this month will be in the market for 16,500,000 cotton knit undershirts which will require a good grade single carded yarn in medium numbers. These inquiries indicate that although there have been reports that military stocks of textiles have been accumulating, there will be enough new business from this source to keep sales yarn spinners busy for as far ahead as can now be seen. Deliveries of English spun fine count combed yarns for rayon hosiery have been slow to arrive.

Rayon Yarn

After reaching a new high in 1942, rayon production and shipments have been creating new records during the first two months of this year and in February rayon producers delivered filament yarn and staple fiber to domestic mills to the total of 51,200,000 pounds as compared with 50,600,000 pounds in the previous month.

The rayon yarn supply situation is causing grave concern to manufacturers of military cloths as well as those making civilian goods. In the last week there have been reports that no more rayon yarn would be available for use in the production of civilian goods unless orders bore a high priority rating, indicating that the goods would go into essential civilian clothing. This was reported when it was known that all intermediate or semi-high tenacity yarn was being taken up by high preference ratings calling for shipment of this yarn for use in military fabrics. Since all high tenacity yarn has been going into military items for sometime, elimination of semi-high tenacity yarn from the civilian field would cut further yarn supplies for that use. Manufacturers are also finding that an increasing poundage of standard rayon yarn is being taken up for goods for the armed services, an example of this being 150-denier now going into linings for the army, navy and coast guard.

Worsted Yarn

There is a much larger call for worsted knitting yarns from sweater manufacturers than can be met. Production of such counts is held down by the WPB wool quota and by the scarcity of trained workers left in the spinning plants. Spinners claim that they could produce much more yarn but that they are unable to do so because of the growing seriousness of the labor situation. Such plants are not able to pay as high wage levels as shipbuilding or airplane companies so that they have not been able to keep many of their skilled workers. There is a very large call for sweaters especially from retail stores in the war industry centers with supply being greatly under demand all along the line. The Government has been buying sweaters and other outerwear items in larger quantities and this has tended to make a very difficult situation for the civilian trade worse. Sweater lines for fall have now been generally withdrawn as mills and selling agents have booked the limited amount of business that could be taken.

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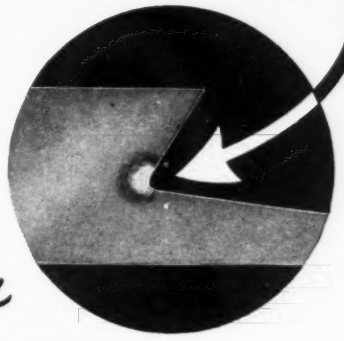

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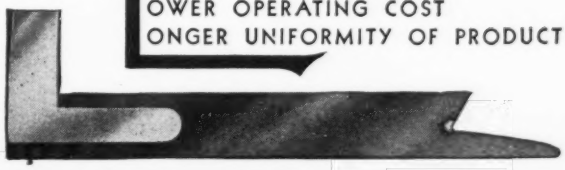

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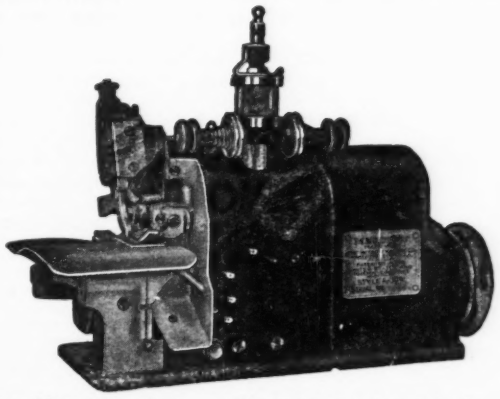

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WE are concentrating all of our efforts — all our facilities — all our abilities — behind the well known gentleman whose likeness appears above. In doing so — we are also serving your best interests — even though we may temporarily be compelled to give you the impression that we are neglecting you. Our sole object is to help win as quickly and completely as possible. Meanwhile, we will help you users of Brinton Knitting Machines, to the best of our ability.

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BUY UNITED STATES WAR SAVINGS BONDS

What the Textile Mills Are Doing

Pilgrim Wool Co., Manchester, N. H., has purchased the Goffstown (N. H.) plant of the U S Bobbin & Shuttle Co., and will use it for sorting and processing wool and wool substitutes. The property includes six buildings with a total floor area of 85,000 square feet, steam plant, steam turbine and water power rights. D. H. Rasmussen, president, is installing pickers, dusters and carding machinery, and expects the new plant to be in operation by May 1.

William Fawcett, a former department head of the Arkwright Mill, New Bedford, Mass., has acquired the property formerly known as the Burgoyne Silk Mills, in New Bedford, and is operating it under the name of Fawcett Mills, Inc. The plant, with 120 looms and slashing, warping and spooling equipment, is producing rayon taffetas and lining fabrics.

A New York state group headed by L. A. Churchill, of Seneca Falls, N. Y., has purchased the former Pondville Woolen Mills, Auburn, Mass., and will produce both war fabrics and suitings for the women's wear trade. The mill is equipped with six sets of cards, 2,000 spindles, 24 narrow automatic looms and 50 narrow plain and 20 broad looms.

Owen Osborne, Inc., Gainesville, Ga., full-fashioned hosiery manufacturers, has been awarded contract to manufacture 80,000 parachutes. This production will be carried on in a new building adjoining the original mill and will not interfere with the manufacture of rayon hosiery.

Whitney Mfg. Co., Whitney, S. C., operating a finishing plant in a part of the former cotton mill at that place, has post-war plans for conversion of the entire property into a finishing mill, with installation of considerable additional machinery.

The machinery of the Spinks Hosiery Mill, Dallas, Ga., has been purchased by the Terry Hosiery Mills, Inc., High Point, N. C., and moved to that place to provide an increased production of children's and misses' anklets.

J. M. Schloss, of Asheboro, N. C., and Paul C. Brockman, of New York City, have purchased Sunspun Chenilles, Inc., Asheboro, and Mr. Schloss will continue as resident manager, with Mr. Brockman as selling agent.

Convenience, Inc., Greenville, S. C., has let contract for a new two-story addition at the rear of the present mill, to cost approximately $35,000 with equipment.

Essex Textile Mending, Lawrence, Mass., has opened a branch plant at 46 Middle St., Lowell, Mass., according to Edward E. Bond, manager.

Glenn Holt Hosiery Mill, Yanceyville, N. C., has been organized. A. Glenn Holt, head of the Caswell Knitting Mills, is president.

Brown Brothers Textiles, Inc., Paterson, N. J., have been chartered to operate a mill for the manufacture of rayon fabrics.

Lerner Knitwear, Shelton, Conn., has been organized to operate a mill manufacturing a line of knitwear specialties.

Chestertown (Md.) Hosiery Mills have filed a voluntary petition covering a dissolution of the company.

Belmont Hosiery Mills, Belmont, N. C., have established a looping department in a building near Shelby.

Arthur Albert, New York liquidator, has purchased the plant of the American Hosiery Mills, New Britain, Conn.

Shorts and Remnants

(*Continued from page* 71)

Complaints

To listen to current gripes about food rationing and read about the starving in Greece, Poland, France, etc., is to recall the old one about "I complained of not having any shoes until I saw a man with no feet".

◆

"Protect the Product"

Manufacturers and shippers in all fields are having a vitally important problem called to their attention by a new educational advertising campaign sponsored by The Hinds & Dauch Paper Company, Sandusky, Ohio. Realizing that the war-time strain in transportation facilities, manpower, materials, machines and time can be greatly relieved by reducing damage-in-transit, the company urges co-operation for product protection in the interests of individual plant economy as well as national efficiency.

In addition to pointing out that carriers "have their hands full", fulfilling their function of moving goods, the advertising copy dramatizes the fact that ton-mileage has doubled, and that loss claims are increasing rapidly. It offers free copies of a helpful, handy "Little Packaging Library", which covers every phase of packing and shipping in corrugated boxes and contains practical tips to reduce costs, speed handling, and prevent damage.

◆

A Grand Thing

". . . I cannot help but remark what a grand thing it is with the machinery builders that we textile fellows do not all have the same slant concerning . . . machinery".

M. O. ALEXANDER

Gen. Supt.,
Woodside Cotton Mills Co.
Greenville, S. C.

(You all know the classic remark of the old lady as she kissed the cow about "everyone to his own taste". Differences in opinion and a desire for something better form the backbone of textile progress and woe be unto the manufacturer who forgets this.)

◆

For Hitler?

"Today I have an inquiry from one of my clients in South America for necktie cloth in cotton and rayon and rayon mohair, further for wash ties and summer ties. I should be much obliged if you would kindly let me have some addresses of manufacturers for this material."

JOSEPH EBEL

231 W. 96th St.
New York, N. Y.

(How about a little hemp, Mr. Ebel, for neckties for Adolf, Benito and Tojo. Maybe they have already heard of those 50 or 60 or more hemp plants we're putting up. We only wish we could have delivered these neckties as a Christmas gift.)

◆

Praises "Rayon Finishing"

"I would like to take this opportunity to thank you for publishing the series of articles on 'Modern Rayon Finishing' which is concluded in the November issue of COTTON.

"Most of the articles one reads in magazines today are highly theoretical or aimless and of little practical value, so that it was particularly gratifying to me to realize, as I read these articles, that there was good practical information that would help me in my everyday work . . ."

HERBERT ROSENBERG

American Finishing Co.,
Memphis, Tenn.

◆

The Rebel Yell

"My young son got into an argument at school the other day based on some information I had given him about movement of the textile industry to the South. I got the information from your magazine originally but I don't have it in the file any longer. I wonder if you could give me any basis of distribution of textile production throughout New England, Pennsylvania, and the South."

H. H. BESUDEN

Cincinnati, Ohio.

There is still a lot of good healthy textile manufacturing above the Smith and Wesson line, as will be attested by our many friends from the rock-ribbed coast of Maine to the last Willkie precinct in Reading, Pa., and no offense is intended to our Republican readers. However, around the turn of the century, less than one-fourth of the active cotton spindles and less than 40 per cent of cotton consumption was in the South as contrasted to over three-fourths of the active spindles and approximately 85 per cent of the cotton consumption in the South today. Other textile divisions have also moved into this area, with over half of the rayon yarn production, a large majority of seamless knitting production being down here. Dyeing, bleaching and finishing, full-fashioned hosiery and other divisions of the industry have shown their greatest expansion in the South in recent years and over 70 per cent of all textile fibers used by the mills in the United States is consumed by Southern mills.

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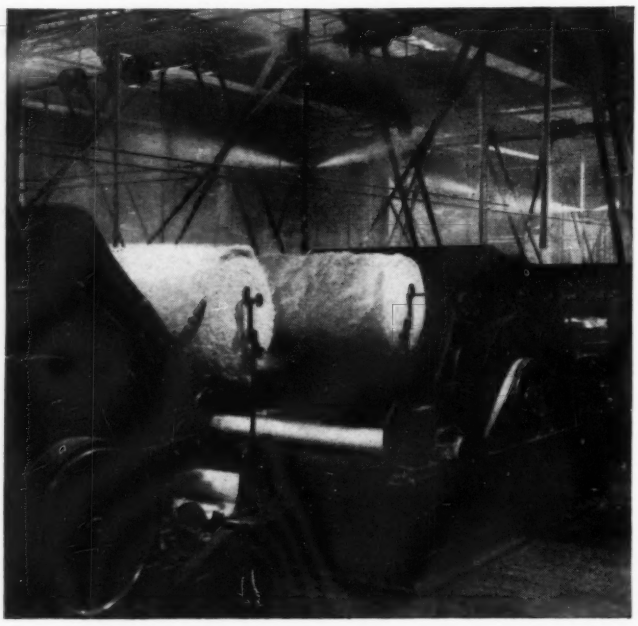

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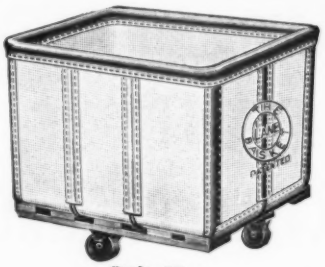

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"NATIONAL" DRYERS
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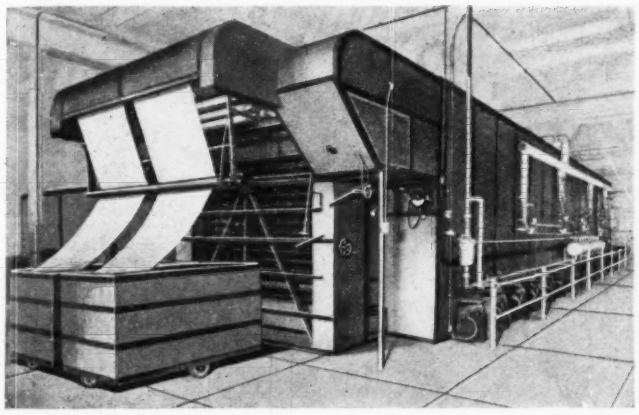

NOT only are "NATIONAL" Automatic Piece Goods Dryers designed to keep thoroughly dried Cotton, Rayon, Woolens and Mixed Goods *rolling out* at unequalled speed . . . they are designed, as well, *to take the severe punishment* inflicted by continuous, high-speed operation.

Finishing Plants and Departments operating these strong, durable machines have found maintenance costs surprisingly low, with "time out" for repairs virtually unheard of.

"Battleship" construction assures a rigid, vibration-proof unit, regardless of size; and the care with which the entire operating mechanism is designed and installed eliminates the faults that lead to costly breakdowns.

Write for complete information on "NATIONAL" Automatic Piece Goods Dryers—if not for immediate use, because of priority difficulties, then *certainly* for future consideration.

Automatic Loop Dryers
Package Yarn Dryers
Print Goods Dryers
Truck Type Skein Dryers

Straight Run Tenters
Return Type Tenters
Apron Stock Dryers
Continuous Yarn Dryers

THE NATIONAL DRYING MACHINERY CO.

N. HANCOCK ST. and LEHIGH AVE., PHILADELPHIA, PA.

New England Agent: C. H. INGALLS, Providence, R. I.

ONYX
KEEPS ABREAST OF THE TIMES THROUGH RESEARCH

THROUGH research—Onyx keeps abreast of the times. Processors and finishers are depending on Onyx Products and Onyx Chemists and Technicians to meet the ever changing production situation. Today more than ever, the many factors disturbing the procuring and use of raw materials, makes exceedingly necessary close cooperation between Onyx Research and textile plants to keep production going. Mills and finishing plants are urged to consult with us on their processing and finishing problems. Onyx Research has helped others, no doubt it can help you. Your inquiries are solicited.

Buy War Bonds and Stamps today and every day.

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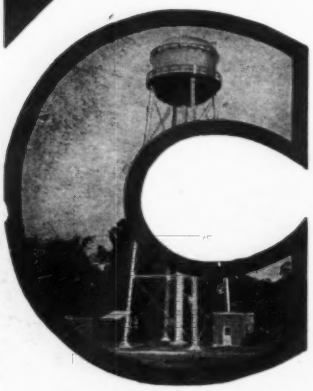
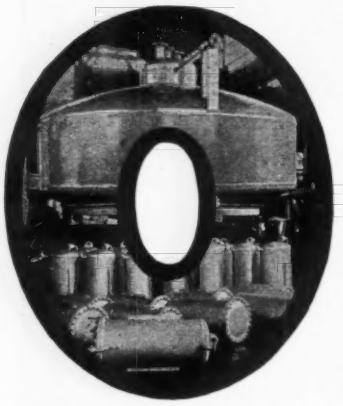
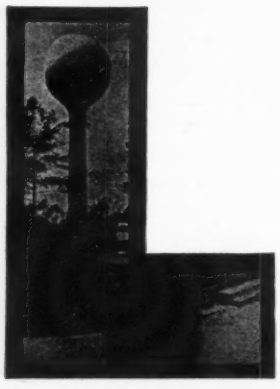


We Tank You!

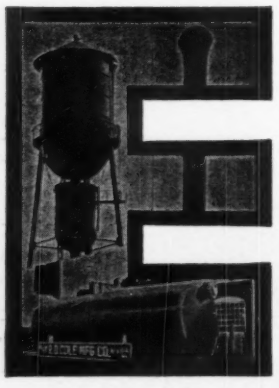


When you think of tanks, think of Cole — "Tank Builders for Over 80 Years!" For more than three-quarters of a century we have been building tanks: Water tanks, acid tanks, dye tanks, chemical tanks, oil tanks, creosote tanks, etc., of steel and alloy, supported by towers of fabricated steel frames. If it's tanks, we can build any kind, of any size, for you anywhere.



Other Cole Products

In addition to tanks and towers we manufacture stand pipes, vats, kettles, kiers, engines, boilers, air receivers, heavy pressure vessels, storage bins, and other fabricated products. Designs furnished by us for your individual requirements, or we can produce anything special from your own designs.

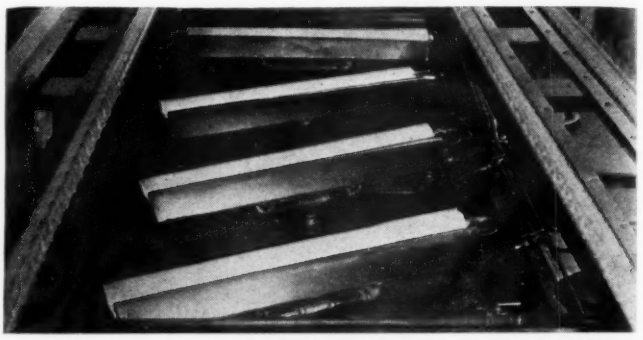


Write for "Tank Talk"--No. 2-C,
or let us know your needs.

R. D. COLE
MANUFACTURING
COMPANY
NEWNAN, GEORGIA
Established in 1854

Tank Builders For Over 80 Years!

INFRA-RED DRYING
Speeds Production



● More and More textile manufacturers are installing the *new* CARBOMATIC RADIANT HEAT GENERATOR for drying and curing. They find that CARBOMATIC RADIANT HEAT GENERATORS . . .

- Dry fabrics *quicker.*
- Have easily adjusted, *automatically controlled* temperatures from 150° to 2200° F.
- Greatly improve the *quality* of the finished product.
- Are *more economical* than any other drying method . . . save labor costs and space.

Write for our new booklet T-9
INFRA-RED DIVISION
CARBOMATIC CORPORATION
ENGINEERS AND MFGRS. OF RADIANT HEAT BURNER EQUIPMENT
GENERAL MOTORS BUILDING, 1775 Broadway, New York, N. Y.
Also H. W. Butterworth & Sons Co., Philadelphia, Pa.
Offices in Providence, R. I., and Charlotte, N. C.

As a part of its wartime advertising program the American Cotton Industry will use dominant color space in April 25th issue of THE AMERICAN WEEKLY (circulation 8,000,000) to tell the advantages of *Cotton Freshness* for war workers.

WORK CLOTHES MANUFACTURERS AND DISTRIBUTORS:
Write for copy of ad and free merchandising helps. Address . . .
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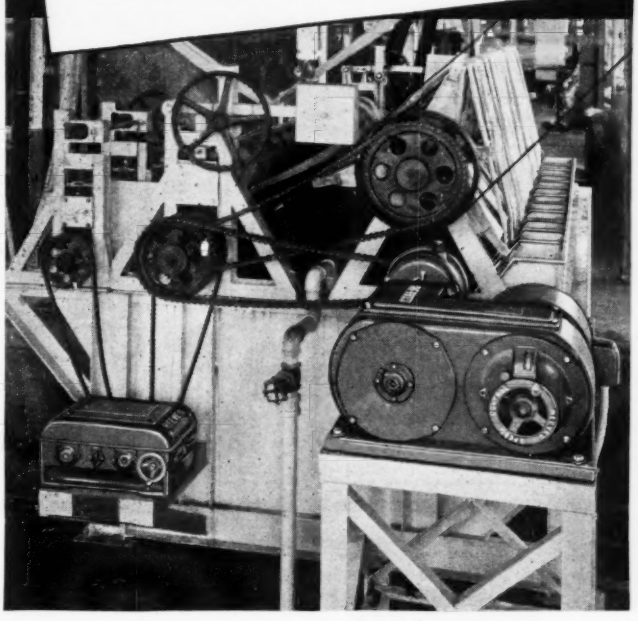
or
NATIONAL COTTON COUNCIL OF AMERICA, MEMPHIS, TENNESSEE

Reeves-driven Equipment

SPEEDS WASHING AND BLEACHING OF TOWELING

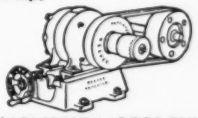


● Shown above is a 12-strand washer, one of the units of a towel bleaching range in a large bleachery. This washer is driven through a 10 h.p. REEVES Motodrive, and is also equipped with an enclosed-type REEVES Transmission to synchronize incoming squeeze rolls. From this washer, toweling is carried to other machines where it is dried, fluffed, cut into lengths, hemmed, sewed, etc. Other units in bleaching range, including 4- and 8-strand washers, saturators and "J-Box" units, are also REEVES-equipped to synchronize and control entire bleaching operation. REEVES Speed Control is standard on leading makes of textile machines, and is easily applied to machines in service. Write for Catalog-Manual TG-419.

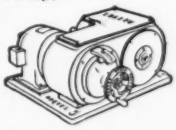
REEVES PULLEY COMPANY
Columbus, Indiana

3 BASIC UNITS

VARIABLE SPEED TRANSMISSION for infinite speed control over wide range—2:1 through 16:1. Fractional to 87 h.p.



VARI-SPEED MOTOR PULLEY for application to shaft extension of any standard constant speed motor; 3:1 range. To 15 h.p.



MOTODRIVE—combines motor, variable speed drive and gear reducer. Speed range 2:1 through 6:1; to 10 h.p.

REEVES Speed Control

Weave for Victory

VICTOR MILL STARCH

"The Weaver's Friend"

★ Penetrates Thoroughly
★ Dependable
★ Carries Weight Into the Fabric
★ Always Uniform
★ Boils Thin

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Are creating real economies in many mills.

Request our trained representative to make a survey of your plant.

Recommendations will be made without obligation. Write

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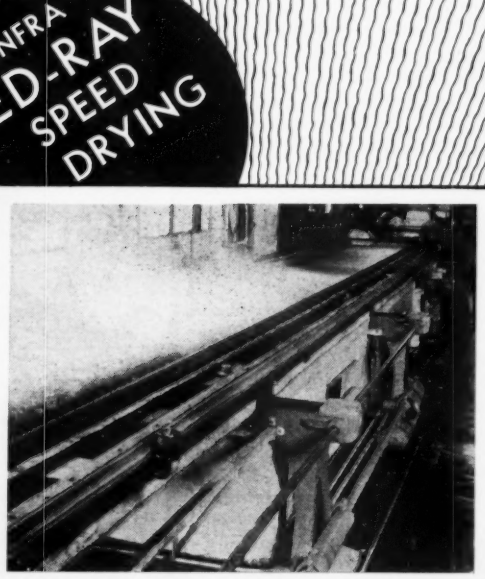
***Canvas* Baskets, Trucks**

Speed-up production—Keep 'em rolling

Ask your Jobber TODAY! MEESE, INC. Madison, Ind.

INFRA RED-RAY SPEED DRYING



Four Red-Ray Radiant burners replaced 12 Booster type burners under tenter in large piece dye works increasing drying speed 3 times. If you want faster drying write us.

2 to 5 TIMES FASTER

RED-RAY MANUFACTURING CO.

Manufacturers of Infra-Red Ray Combustion Equipment

455 WEST 45th STREET NEW YORK, N. Y.

Why stuffing boxes are giving way to JOHNSON ROTARY PRESSURE JOINTS

● At Delta Finishing Co., Philadelphia, Pa.—Johnson Joints installed on sanforizer.

● At Hope Webbing Co., Pawtucket, R. I.—Johnson Joint installed on a 7 ft. slasher.

● At Everlastik, Inc., Chelsea, Mass.—Johnson Joints installed on battery of dry cans.

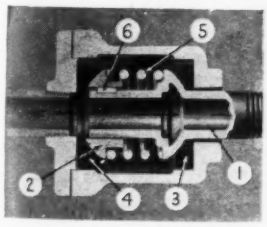
WHY are so many textile mills switching over to the Johnson Joint? For two sound reasons: 1st, it ends all stuffing box problems; 2nd, it helps to step up plant production.

HOW does it end all stuffing box troubles? By means of a simple, rugged construction that never needs to be oiled, has no packing at all to wear out, adjusts itself automatically to varying pressure, and absorbs both lateral and angular misalignment without loss of operating efficiency.

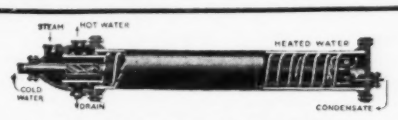
HOW does it step up plant production? Partly by eliminating many causes of machinery shutdown and thereby saving valuable production time. Mostly by making possible modern, more efficient methods of can drainage in which condensate is removed continuously, by means of a syphon pipe, through the same head that admits the steam. Machines can be started without delay—can temperatures can be higher and more uniformly maintained.

WHY don't you write for comprehensive new bulletin which shows a size and type of the Johnson Joint for every dry can, slasher or sanforizer.

NOTE THE SIMPLE, PACKLESS CONSTRUCTION



Nipple (1) is fastened to roll or drum. Collar (2) is keyed (6) to nipple but is free to slide back and forth. Carbon graphite seal ring (3) and bearing ring (4) eliminate packing and are completely self-lubricating. Spring (5) is for initial seating only; in operation joint is pressure sealed—adjusts itself automatically for most efficient operation.



NEED HOT WATER?

The best and simplest way to heat water with steam is with the Johnson "Instant" Water Heater. Hook it right up to your high pressure steam line—needs no reducers. Simple rugged design assures long life. Available *right now* in new low cost, all steel construction. Write for new bulletin.

The Johnson Corporation

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SURE SIGN *of* GOOD APRONS

KENTEX
TRADE-MARK REG.
APRON

To enable you to readily identify the aprons in your frames that give you *superior* service, we are now branding our aprons with the KENTEX arrow trade-mark shown above.

This trade-mark will be your assurance of the dependable quality, durability and *precise uniformity* you have learned to expect in long-draft aprons made by this company.

☆ ☆ ☆

TEXTILE APRON COMPANY

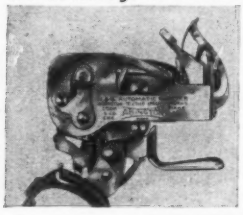
EAST POINT, GEORGIA

J. B. KENNINGTON, OWNER

Even green help get perfect, non-slip knots with the famous

ABINGTON WEAVER'S KNOTTER

The Abington Automatic Knotter is the ONLY knotter that combines the advantage of a weaver's knot with automatic scissor clipping.



The tails can be made any length from 5/16" down to minus 1/16". Knots are so compact and tight as to be acceptable in thread and in yarns for rubber-coated fabrics where ordinary knots often cause blisters. Even learners do a speedy, perfect job with this Knotter, keeping production right up to the maximum.

REQUEST KNOTTER CATALOG

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BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high-grade bobbin enamel, which dries to a hard, glossy finish.

Brushes can be refilled and returned in two days. Freight is paid one way.

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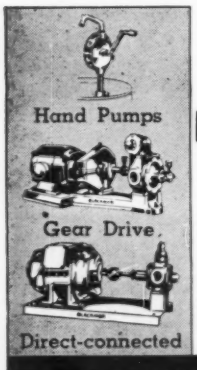

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Hand and power operated. Capacities 5 to 700 GPM. Pressures to 300 psi. All standard drives.

• "If it's a job for a rotary, Blackmer will do it more efficiently and at lower cost".

Engineering and Maintenance Bulletins FREE to PLANT MEN.

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BLACKMER *Rotary* PUMPS
"BUCKET DESIGN"—SELF-ADJUSTING FOR WEAR

"The Roving Frame"

by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Cotton", clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanations. This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Cotton", containing valuable information, illustrations, tables, charts and diagrams.

Fay H. Martin is a recognized authority on the roving frame. This book has been adopted by textile schools and vocational schools. Price per copy $1.00 (or it may be secured in conjunction with a 3-year subscription to "Cotton" for $2.50 (Canada $4.00—Foreign $5.50).

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BILL, THE PLATFORM MAN

It is 4 minutes to midnight—11:56 P.M.—in a Railway Express terminal. The man is a Railway Express platform man, one of many thousands stationed around the country. The package is a shipment of medical instruments. The destination—a military secret.

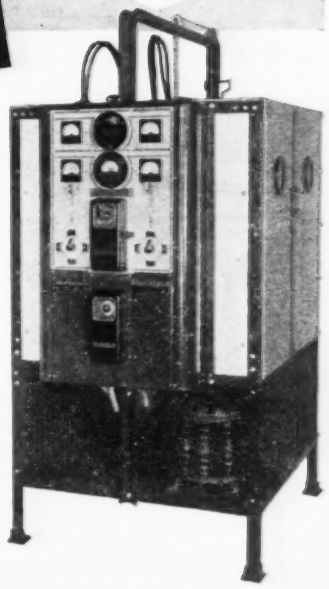
The package might have been some other type of war material or a commercial shipment to some factory which must "keep going". It might have been...anything.

To Bill, the platform man, and to any other of the thousands of employes who work for Railway Express, their job is to *keep things moving* so that trains and vehicles may maintain their ceaseless deliveries to the four corners of the nation.

All in controllable cycles inside the

NEW ATLAS TWIN ARC WEATHER-OMETER

TEST RESULTS TWICE AS FAST



THE new Atlas Twin-Arc Weather-Ometer has been developed to save time where speed in testing is essential.

Where Federal Specifications call for a definite number of testing hours in the Atlas single arc Weather-Ometer, this time can be cut in half in the Atlas Twin-Arc.

Exclusive Atlas Twin-Arc Weather-Ometer features:

1. Temperature control.
2. Unlimited range and control of Light and Water Spray Periods.
3. Adjustable and automatic timing.
4. Insulated test chamber.
5. Operates continuously 24 hours without manual attention.
6. Carbon cost 28c per day.
7. Full automatic — Safe to operate unattended overnight.
8. Control panel contains Volt and Ammeters—Time Meter—Light and Water Cycle switch—Automatic time cut off switch—Voltage adjusting switch—Direct reading thermal regulator—Reactance Coil (cuts power cost in half).

Originators and sole manufacturers of accelerated testing devices for a quarter of a century. Fade-Ometer, Weather-Ometer, Launder-Ometer are used all over the world as accepted standard testing machines.

The Single Arc Model is a popular machine where high speed is not required.

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361 W. Superior St., Chicago, Illinois

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WEATHER-OMETER ★ LAUNDER-OMETER ★ FADE-OMETER

To Textile Dyers Doing A War Job...

IN CLEANING STAINLESS STEEL EQUIPMENT AVOID MATERIALS THAT CAUSE CORROSION

Do not use ordinary steel wool or steel brushes on stainless steel equipment. Steel particles rubbed off the steel wool or brushes may become imbedded in the stainless steel. The particles will rust and discolor the stainless steel surface and can be the focal point of serious corrosion.

You can avoid the contamination of dye solutions by using only stainless steel wool or brushes for cleaning. Watching details like this will help you keep your equipment in good working condition for your wartime assignment. When maintenance problems arise let us know about them. Perhaps one of our engineers can give you a "helpful maintenance" suggestion.

All orders subject to Government Priority Regulations.

★ Specialists in Manufacture of Stainless Steel Dyeing Equipment

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For light or heavy duty service Darnell Casters and Wheels are made for a long life of trouble-free usage, to protect floors and increase employee efficiency.

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FREE MANUAL

DO YOUR FABRICS EVER RATE LOW IN "FEEL APPEAL"?

EXSIZE, for desizing may step up their softness!

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● If your fabrics do not always have a feeling of softness and suppleness, the desizer you use may be at fault. Chances are, they'll have a more uniform, softer "hand" if you use EXSIZE.

EXSIZE is a concentrate of pure malt enzymes, with no harsh chemicals, acids or alkalis. Malt enzymes are recognized by scientific test to be the best all-round desizing agent.

EXSIZE cannot harm animal, vegetable or synthetic fibres. On the contrary, it actually improves them, leaves them less harsh, less brittle. EXSIZE works rapidly, thoroughly—rinses easily — and provides a cleaner, more workable cloth for bleaching and dyeing. And its cost is low. A few pennies worth of EXSIZE will desize hundreds of yards of cloth. Write for a free descriptive booklet. If you wish, an experienced Pabst field man will call — there's no obligation.

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CHICAGO, ILLINOIS
Warehouses at New York, and
Textile Warehouse Company, Greenville, S.C.

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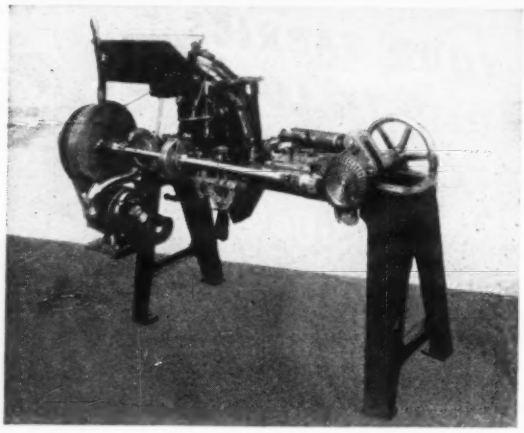

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HIGH CLEANING CAPACITY
Protects barrel and finish. Usually pays for itself in one year—always within 18 months.

Complete information promptly furnished upon request

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Furnished with your choice of anti-mildew:
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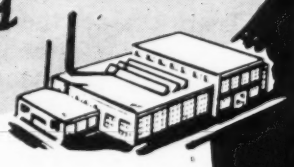

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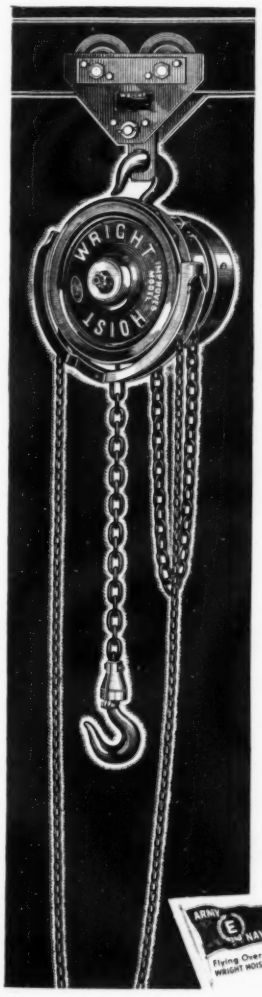

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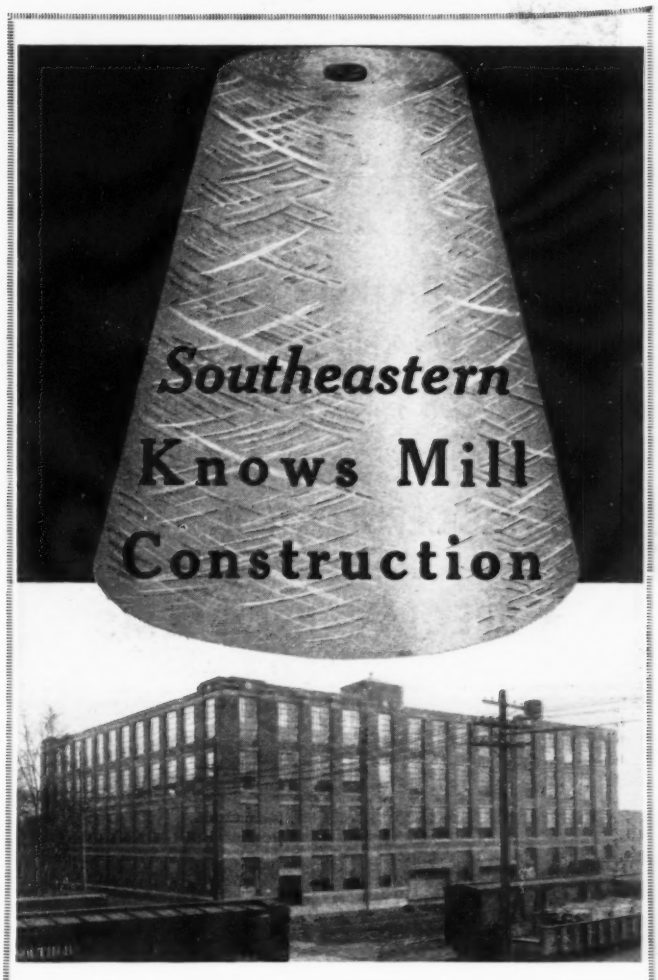

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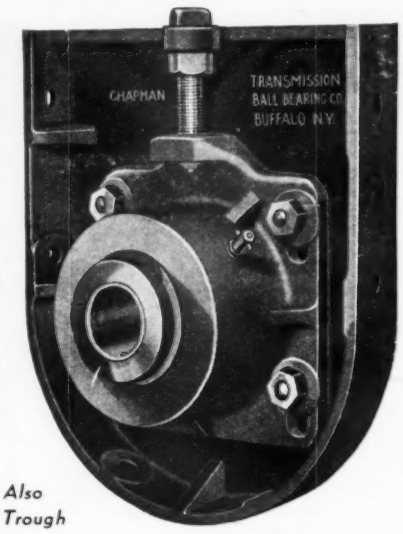

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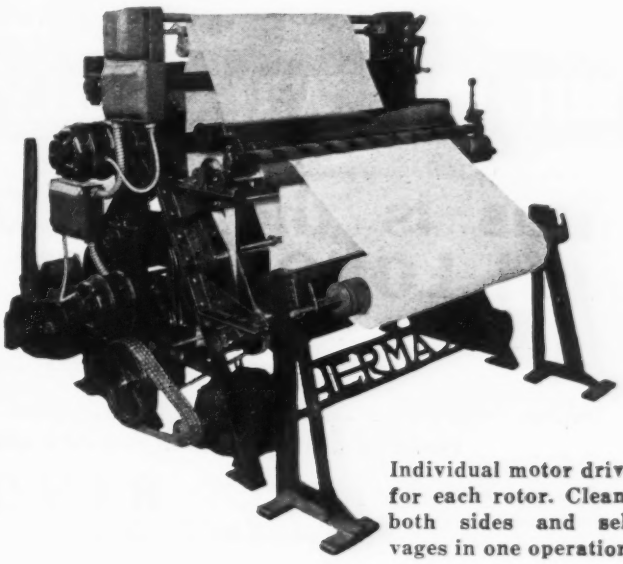

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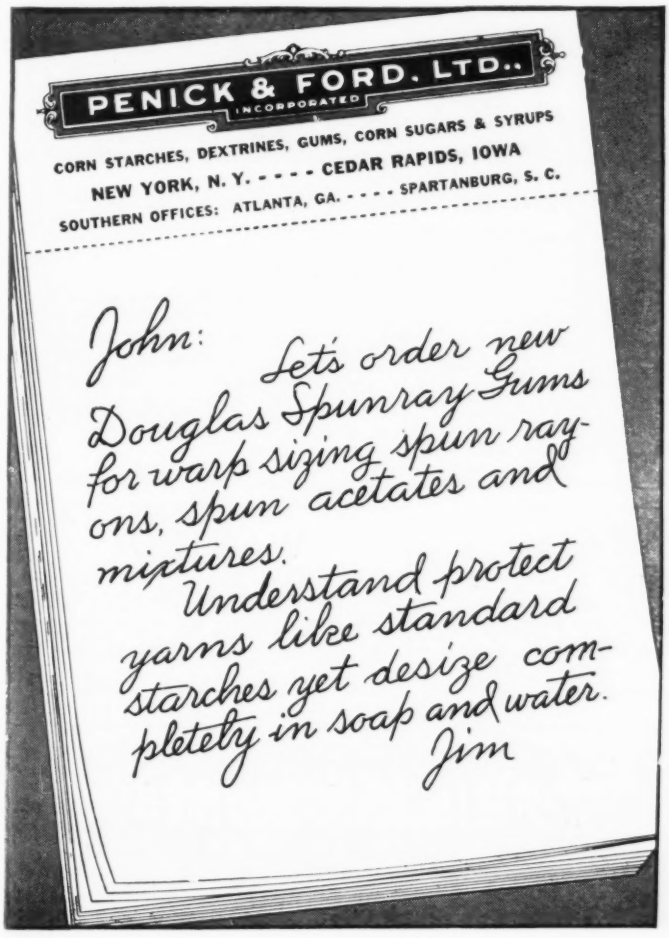
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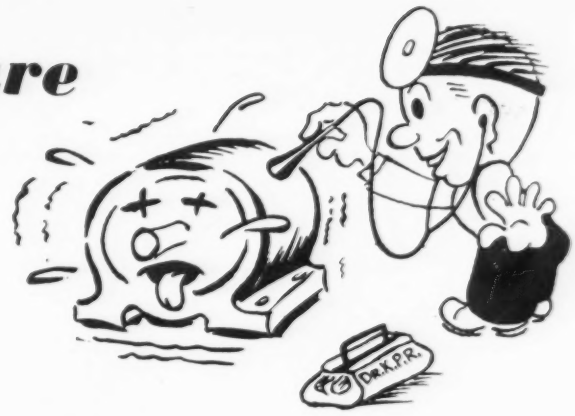

Motors are very much the same as human beings—give them proper care and they last a long time. Some of the preventions and cures of motor troubles are so obvious that we are inclined to overlook them.

Proper ventilation, for example, can prevent many causes for breakdowns. Motors need air—give it to them. Don't stack bags, boxes on or next to them. Keep the passage of air open.

Keep motors dry. Water has great affinity for acid fumes floating in the air. Consequently, water is soon converted into a harmful acid and deteriorates metal and destroys coils and insulation.

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Affect complete repairs. Avoid makeshift remedies which may lead to greater trouble. Keep producing for victory.

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FOR TEXTILE MACHINERY
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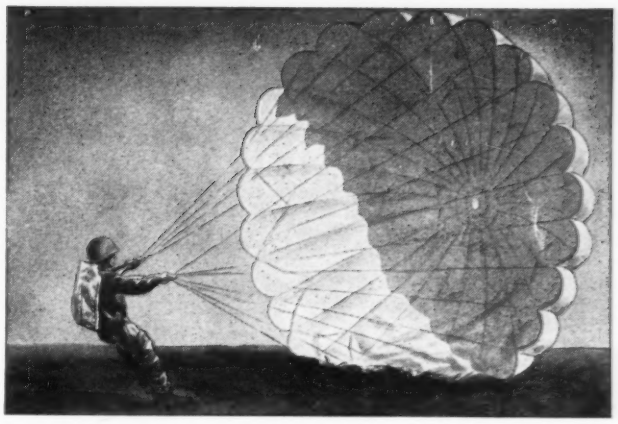

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The parachute is but one of the more spectacular of hundreds of textile products, every one of which is vitally needed to gear and maintain our fighting forces. In quantities of many millions, the Textile Industry must produce these items ON TIME, using only existing equipment. In your efforts to achieve MAXIMUM production, bear in mind that a change-over to new rings or new styles of rings can often accomplish gratifying results—especially if the rings are DIAMOND FINISH.

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3. No Splinters. Smooth hard surface does not catch yarn.

4. Free but Controlled Delivery. A natural result of smooth surface, deep, well rounded corrugations and freedom from distortion.

5. Practically No Chipping or Splitting, because of "built up" construction,—layer on layer of tough paper glued together.

6. No Slippage on Spindle. Have perfect spindle cling due to resiliency.

7. Resiliency. Even if bent by abusive handling, these carriers will usually straighten out on the spindle.

8. Saving in Power in some cases due to light weight.

9. Minimum Breakage, due to great strength in view of light weight.

10. Long Life, resulting from their strength and resistance to distortion, splintering, etc.

11. No Static, which is often a great advantage.

12. Larger Capacity in some cases due to comparatively thin wall and small diameter (if desired).

13. Yarn Protection due to absence of splinters or rough places.

14. Ultimate Low Cost due to operation economies, long life, etc.

★

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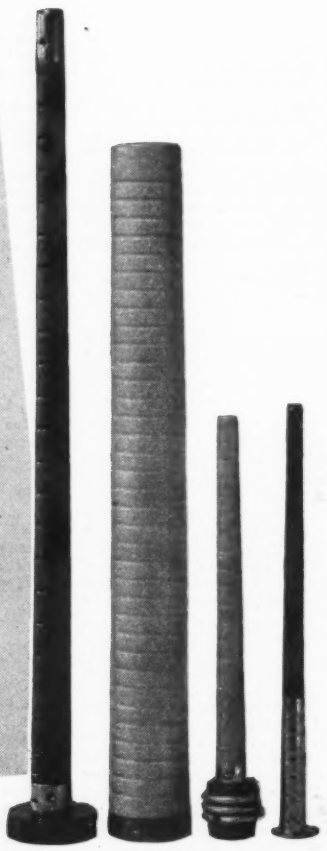

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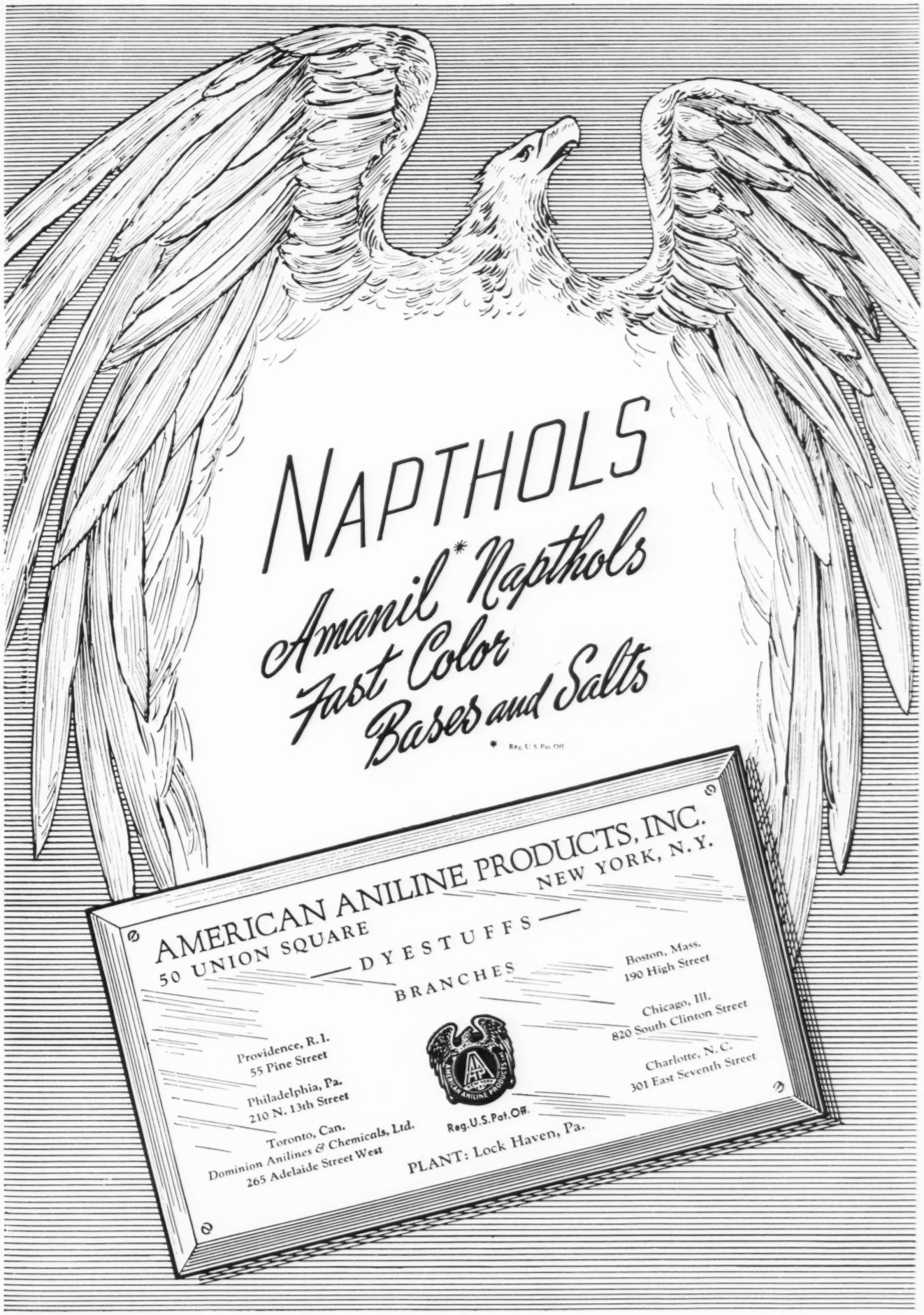
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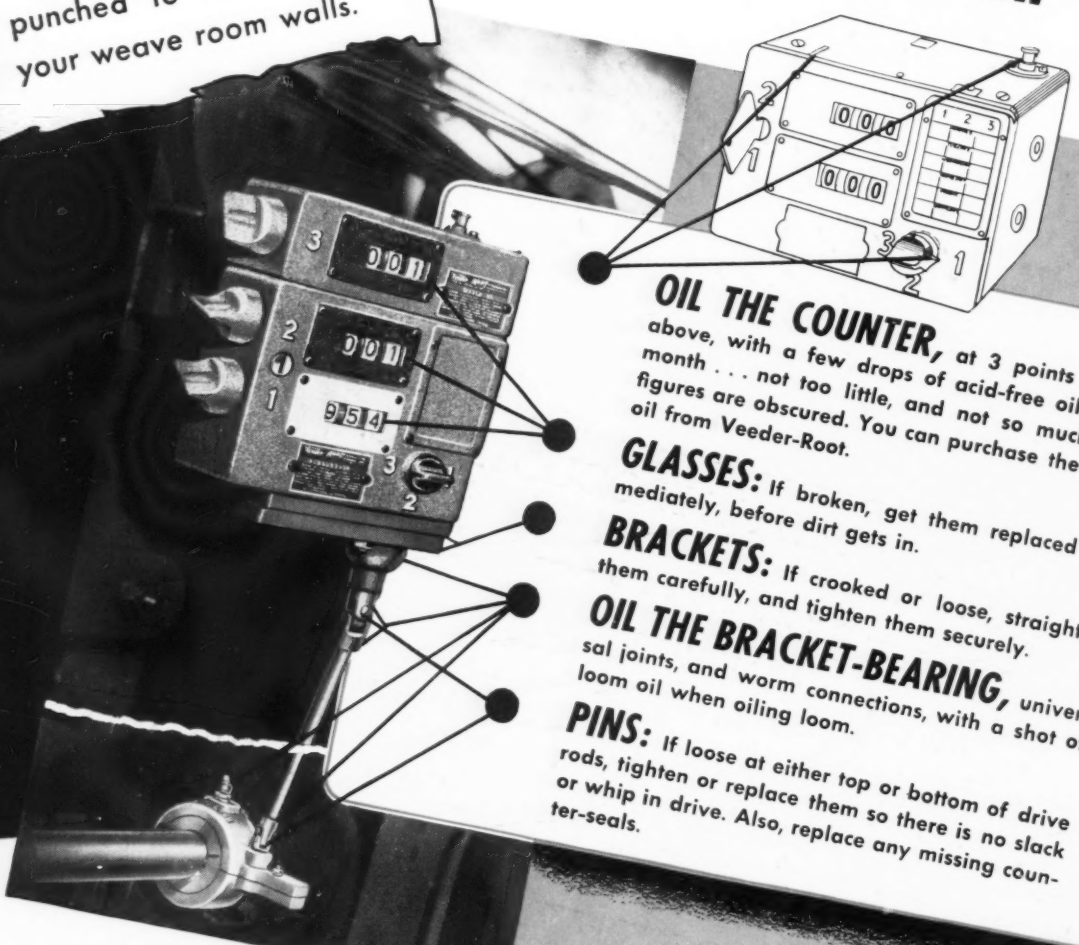
NEW...Free Check Chart

Make this Regular Quick Inspection of all VEEDER-ROOT 2-3 PICK COUNTERS in order to "Keep 'em Counting" . . . for the Duration

Write us how many looms you're running, and we'll send you an adequate supply of these 8½" x 10½" cardboard cards, ready punched to hang up on your weave room walls.



OIL THE COUNTER, at 3 points shown above, with a few drops of acid-free oil every month . . . not too little, and not so much that figures are obscured. You can purchase the right oil from Veeder-Root.

GLASSES: If broken, get them replaced immediately, before dirt gets in.

BRACKETS: If crooked or loose, straighten them carefully, and tighten them securely.

OIL THE BRACKET-BEARING, universal joints, and worm connections, with a shot of loom oil when oiling loom.

PINS: If loose at either top or bottom of drive rods, tighten or replace them so there is no slack or whip in drive. Also, replace any missing counter-seals.

ARMY E NAVY

77204

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